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ACTA BIOCHEMICA ET BIOPHYSICA SINICA

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ORG: LI, FAN, MA, TU, JAN, WANG, LI, LIANG all of the Division of Biochemistry of Cancer, The Third Research Laboratory, Chinese Academy of Medical Sciences; TING and TSOU both of the Division of Pathology, The First Research Laboratory, Chinese Academy of Medical Sciences

TITLE: "Studies On the Mechanism of Carcinogenesis. I. Interrelationship Between the Changes in Proliferating and Tissue-Specific Enzyme Activities of Rat Liver During Development and Carcinogenesis by Diethylnitrosamine"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 113-130

[continuation of SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO No 2, Jun 77 pp 113-130]

EXCERPTS FROM ENGLISH ABSTRACT: In connection with the study of the mechanism of carcinogenesis, we have undertaken an investigation on the relative changes in activities of the proliferating enzyme such as aspartate carbamyl transferase (ACT) and the tissue-specific enzymes such as ornithine carbamyl transferase (OCT) and carbamyl phosphate synthetase (CPS<sub>1</sub>) in a model system of hepatocarcinogenesis of rats induced by diethylnitrosamine (DENA). Similar observations have also been made during development of rat liver.

Based on the pathological study and enzymatic changes of liver in the present experiment, the process of carcinogenesis may be tentatively divided into three stages: 1) stage of simple hyperplasia--the early six weeks of DENA feeding. Changes in the relative ratio of ACT, OCT and CPS<sub>1</sub> activities in this stage are reversible, similar to those observed in the regenerating liver. 2) stage of malignant transformation--from the 6th to the 16th week of feeding the carcinogen. In this stage there appears anaplastic hyperplasia of liver cells characterized by an irreversible change of the relative ratio of enzyme activities, and 3) stage of the development of hepatocellular carcinoma--from the 16th to the 30th week of carcinogenesis.

It is concluded that carcinogenesis would be due to a random impairment of the control mechanism for gene activities of certain tissue-specific operons, leading to

[continuation of SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO No 2, Jun 77 pp 113-130]

irreversible changes in nucleic acid biosynthesis and in tissue-specific metabolism and their key enzyme activities which in turn give rise to an irreversible disturbance of the normal balance between cell proliferation and tissue-specific function, resulting in an abnormal growth and finally the formation of cancer.

AUTHOR: None

ORG: Institute of Medical and Pharmaceutical Science of Kwangsi, Chuang Autonomous Region, Nanning

TITLE: "Experimental Studies on Antitumor Agents of Tylophora ovata (Lindl.) Hook. et Steud. (Asclepiadaceae): I. Chemical Study of Antitumor Alkaloids"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 131-138

TEXT OF ENGLISH ABSTRACT: From the total alkaloids of Tylophora ovata (Lindl.) Hook. et Steud. (Asclepiadaceae) four alkaloids were isolated. The two major antitumor compounds were identified as Tylophorinidine and Tylophorinine, their structures were assigned on the basis of their chemical properties and UV, IR, NMR and MS data. The two minor alkaloids have not yet been studied due to their small quantities. A yellow crystal with a melting point of 268-270°C was also obtained.

Tylophorinidine and Tylophorinine were also isolated from the roots of I. atrafolliculata Metc. Furthermore, the whole plant of I. mollissima Wight I. koi Merr. contains the same compounds as above.

[continuation of SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO No 2, Jun 77 pp 131-138]

Tylophora alkaloids are unstable, especially in  $\text{CHCl}_3$  solution, and when exposed to light and air were converted into 3-4 other substances.

These Tylophora alkaloids are very irritative to the skin and mucous membrane.

AUTHOR: None

ORG: Institute of Medical and Pharmaceutical Science of Kwangsi, Chuang Autonomous Region, Nanning

TITLE: "Experimental Studies on Antitumor Agents of Tylophora ovata (Lindl.) Hook. et Steud. (Asclepiadaceae). II. Antitumor Activity and Pharmacology"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 139-145

TEXT OF ENGLISH ABSTRACT: According to the results of tissue culture determining the index of anti-leukemic cells and method of spermatogonium, the total alkaloids of Tylophora ovata showed antitumor activity and inhibitory action against sarcoma 180, U14, L615 and Walker carcinosarcoma 256. The main toxicity of total alkaloids was the emetic effect. It also inhibited the phagocytic function of macrophages in vivo, but this could be recovered after withdrawal of the drug. The antitumor activity, pharmacological actions and toxic reactions of tylophorinidine and tylophorinine were similar to those of the total alkaloids.

AUTHOR: CHOU Huan-keng [0719 3562 1649]  
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ORG: All of Soochow Medical College, Soochow

TITLE:  $^{60}\text{Co}$   $\gamma$  -Ray-Induced Chromosome Aberrations in Human Peripheral Blood Lymphocytes Irradiated In Vitro: Dose-Response Relations and a Comparative Study with 180 kV X-Rays\*\*

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 146-158

EXCERPTS FROM ENGLISH ABSTRACT: In order to use the observed yield of chromosome aberrations in peripheral blood lymphocytes as a measure of in vivo radiation dose, it is essential to establish dose-response curves by irradiating blood samples in vitro. Following in vitro calibration of X-ray irradiation, we studied the dose-response curves of chromosome aberrations in human lymphocytes induced with  $^{60}\text{Co}$   $\gamma$  -rays and compared the effects of both radiation types. The conclusions are as follows.

1) In human lymphocytes, only in vitro dose-response curves established under standardized conditions might permit a meaningful biological dosimetry based on chromosome damage, i.e. these data should be obtained under circumstances as close

[continuation of SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO No 2, Jun 77 pp 146-158]

as possible to those existing during accidental exposure.

2) According to WHO criteria, for the analysis of the dose-effect relationship the observed values are fitted by least-square regression analysis using Poisson variance and weights to corresponding models. Like those induced by X-rays, the dicentric and centric ring data induced by  $^{60}\text{Co}$   $\gamma$  -ray gave the best fit to the second degree polynomial model with  $a=0$  (the regression was constrained to pass through the origin),  $Y_{\gamma\text{-ray}} = (0.59 \pm 0.94) \times 10^{-4}D + (4.77 \pm 0.40) \times 10^{-6}D^2$ , while  $Y_{X\text{-ray}} = (0.51 \pm 0.21) \times 10^{-3}D + (5.02 \pm 0.77) \times 10^{-6}D^2$ . A physical interpretation of this equation could be the production of some exchange aberrations by a single track and of others by the interaction of two separate tracks. Comparing the relative b and c coefficients for the two types of radiation, the main difference lies in the b terms in the production of asymmetrical exchange aberrations. Based on the quadratic function, the linear component in the aberration yield derived from single track lesion is independent of dose-rate, and the value of  $b/c$  (i.e.  $\lambda$ ) is the dose at which the contributions from single-track and two-track events are equal. This value for  $\gamma$ -rays and X-rays is 12 rads and 100 rads respectively. Hence, it may be assumed that for biological dosimetry in cases of accidental overexposure to  $^{60}\text{Co}$   $\gamma$ -rays more account should be taken of the dose-rate than in cases of overexposure to X-rays. Similarly, the data for dicentric and centric rings may also be fitted to the potential function with  $Y_{\gamma\text{-ray}} = 1.64 \times 10^{-5}D^{1.79 \pm 0.11}$  and  $Y_{X\text{-ray}} = 6.50 \times 10^{-5}D^{1.61 \pm 0.05}$ . However, it should be noted that the data fit the quadratic better

[continuation of SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO No 2, Jun 77 pp 146-158]

as compared with the power function, especially when extrapolated to low doses.

3) Because the aberration yields induced by various types of radiation were different from one another, their dose-response curves must be established separately from the viewpoint of radiation protection. The work reported here showed that  $^{60}\text{Co}$   $\gamma$ -rays are less efficient than X-rays. No single RBE value for  $^{60}\text{Co}$   $\gamma$ -rays versus 180 kV X-rays for exchange aberrations could be calculated. The RBE values varied between 0.12 and 0.89. From RBE-dose relations it may be seen that the RBE value rises with increasing  $^{60}\text{Co}$   $\gamma$ -ray doses within the dose range analysed (24-488 rads), and then tends gradually toward saturation.

\*Comrades LO Ch'eng-chi [5012 2052 1015] and LIU Shu-chen [0491 3219 3791], both of the 7th Army Medical College, People's Liberation Army, provided assistance.

AUTHOR: None

ORG: Research Group No 1, Department of Photosynthesis, Shanghai Institute of Plant Physiology

TITLE: "Studies on the Coupling Mechanism of Photophosphorylation--The Stimulation Effect of Photophosphorylation by  $\text{NH}_4\text{Cl}$ "

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 159-167

TEXT OF ENGLISH ABSTRACT: When the concentration of phosphate in the phosphorylation reaction mixture is low,  $1-3 \times 10^{-4}$  M,  $\text{NH}_4\text{Cl}$  shows a typical uncoupling effect, i.e. the electron transport is increased under strong light while the phosphorylation activity is decreased. At higher concentrations of phosphate, the same concentration of  $\text{NH}_4\text{Cl}$  enhances both the activities of electron transport and phosphorylation. The critical phosphate concentration for the appearance of stimulatory effects of  $\text{NH}_4\text{Cl}$  on photophosphorylation varies with different chloroplast preparations, but it is usually within the substrate range (0.5-5 mM) commonly used for photophosphorylation.

Using the technique of two-stage photophosphorylation and measuring the effect on the slow quenching of fluorescence of chloroplasts, it is shown that  $\text{NH}_4\text{Cl}$  under the



[continuation of SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO No 2, Jun 77 pp 159-167]

above-mentioned condition does abolish the high energy state in the cavity of thylakoids. Another uncoupling agent, gramicidin, may also show stimulatory effects on photophosphorylation at  $1 \times 10^{-8}$  M. The addition of  $1 \times 10^{-8}$  M gramicidin together with  $2 \times 10^{-4}$  M  $\text{NH}_4\text{Cl}$  to the same reaction mixture stimulates the phosphorylation activity to an even greater extent.

The stimulatory effect of  $\text{NH}_4\text{Cl}$  on photophosphorylation is discussed in connection with the suggestion deduced in our previous work that the high energy state may have different types of existence.

AUTHOR: None

ORG: Insulin Research Group, Shanghai Institute of Biochemistry, Academia Sinica

TITLE: "Studies on the Structure-Function Relationship of Insulin. III. Further Studies on DES(B25-30)-Insulin and Its Analog"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 169-173

TEXT OF ENGLISH ABSTRACT: An improved method is described for the preparation of deshexapeptide insulin (DHI) and D-Ala<sup>B23</sup>-DHI. After purification, these insulin analogs possess about 40% of the activity of native insulin and cross-react with guinea pig antiporcine insulin serum.

AUTHOR: CHOU Kuo-ch'eng [0719 0948 1004]

ORG: Shanghai Institute of Biochemistry, Academia Sinica

TITLE: "The Kinetics of the Combination Reaction Between Enzyme and Substrate.  
II. Multi-Barrier Reaction and Measuring Signal"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 175-186

TEXT OF ENGLISH ABSTRACT: In order to investigate liquid phase fast reaction systems involving conformational changes, a new method for separating kinetic constants is suggested in this paper. On such a basis we discuss the relationship between multi-barrier reaction and measuring signal. As a result, a more general kinetic equation is obtained which takes into account both the effect of the diffusion-limit and the effects of conformational changes and of solvents, and hence may serve to provide a kinetic basis for further investigating the whole process of enzyme-substrate combination reactions. It is shown through illustrative calculations that we are able to interpret those experimental results which could not be accounted for by the usual theories of reaction kinetics.

AUTHOR: None

ORG: Immobilized Enzyme Section, Shanghai Institute of Biochemistry, Academia Sinica

TITLE: "Preparation and Application of Immobilized 3'-RNase"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 187-199

TEXT OF ENGLISH ABSTRACT: ABSE-sephadex G200 has been prepared by linking 4-( $\beta$ -sulfato-ethylsulfonyl)-aniline to sephadex G200 through esterification.

ABSE-sephadex G200-3'-RNase was prepared by covalently bonding native 3'-RNase to diazotized ABSE-sephadex. The effect of some factors on the coupling of the native enzyme and the activity of the immobilized enzyme has been investigated.

The immobilized 3'-RNase has been used to prepare 3'-mononucleotides on a moderate scale, with a practical efficiency of over ten-fold that of the broth enzyme.

AUTHOR: None

ORG: Research Group of Virology, Institute of Microbiology, Academia Sinica and Research Group of Labeled Compounds, Shanghai Institute of Nuclear Research

TITLE: "Preparation of 5-T -Uridine-5'-Monophosphate and 5-T -Uridine-5'-Triphosphate"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 201-207

TEXT OF ENGLISH ABSTRACT: [5-T]-uridine-5'-monophosphate, sodium salt, was prepared from [5-Br]-uridine-5'-monophosphate by catalysed halogen tritium exchange, and purified by paper chromatography.

Its triphosphate was subsequently prepared from the tritium labeled uridine 5'-monophosphate through enzymatic phosphorylation with the crude enzyme prepared from brewer's yeasts, and purified by paper chromatography. In addition to [5-T]-5'-UTP, [5-T]-5'-UDP was obtained as a by-product.

The ultraviolet absorbing curves of these isotope labeled nucleotides are consistent with those of 5'-UMP, and 5'-UTP respectively. The specific activities of these products are 10 ci/mole and their radiochemical purity, more than 98%.

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ORG: All of the Shanghai Institute of Biochemistry, Academia Sinica

TITLE: "Quantitative Determination of Total Volatile N-Nitrosamines By a Simple Colorimetric Method"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 209-216

TEXT OF ENGLISH ABSTRACT: During the past 10 years, N-nitrosamines has attracted a great deal of attention as a carcinogenic hazard in the environment. The monitoring of trace amounts of N-nitrosamines in food is now possible with gas-chromatography mass-spectrometry if the costly instruments are available. But for routine analysis in an ordinary laboratory this is hardly feasible.

A simple colorimetric method is proposed here for the detection of the total volatile N-nitrosamines in food extracts. The method involves solvent extraction, fractional distillation and ultraviolet irradiation to liberate nitrate, followed by concentration with a strong basic resin. The nitrite is then eluted with sodium chloride

[continuation of SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO No 2, Jun 77 pp 209-216]

and detected with the Griess reagent. The recovery is of the order of 70-110% at the  $10^{-8}$  g level.

AUTHOR: None

ORG: Division of Mulberry Protection, Kiangsu Institute of Sericulture, Chen-chiang and Virus Research Group, Shanghai Institute of Biochemistry, Academia Sinica

TITLE: "Studies on the Pathogens of Mulberry Dwarf Disease. IV. Transmission of the Mulberry Yellow Dwarf Disease By the Viruliferous Insect Vectors, the Leafhoppers Hishimonoides sellatiformis, Ishihara and Hishimonus sellatus, Uhler"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 217-221

TEXT OF ENGLISH ABSTRACT: 1) Inoculation experiments on a single or a group of insects showed that both Hishimonoides sellatiformis and Hishimonus sellatus are vectors of the mulberry yellow dwarf disease. The virulence of H. sellatiformis is much stronger than that of H. sellatus.

2) In the thin sections of the salivary glands from infective leafhoppers H. sellatiformis pleoformic mycoplasma-like organisms could be detected. Sometimes these organisms were seen to cluster together, enclosed in cytoplasmic membranes at the periphery of glandular cells. In some cases these organisms formed swarms in the salivary tubular system.

3) In some thin sections, uniform particles with a diameter of 40 nm were observed. The nature of these particles remains to be elucidated.

AUTHOR: MA Te-ju [7546 1795 1172]

ORG: Hupeh Institute of Plant Research, Wuhan

TITLE: "On the Polyphyletic Origin of Life From Pre-life and Its Significance"

SOURCE: Shanghai SHENG-WU HUA-HSUEH YU SHENG-WU WU-LI HSUEH-PAO [ACTA BIOCHEMICA ET BIOPHYSICA SINICA] in Chinese No 2, Jun 77 pp 223-235

EXCERPT FROM ENGLISH ABSTRACT: Life likely sprang from more than one origin. The concept of polyphyletic evolution is important for the understanding of biopoesis. It is probable that pre-life and early life coexisted on the earth's surface for a period of two billion years. The long time of coexistence would imply a polyphyletic transition from pre-life to early life. During the entire period biopoesis appeared many times in different biogenetic places either continuously or intermittently. Apart from the competition between various kinds of pre-lives, there would also have been competition between forms of lives which arose at an earlier and at a later date from pre-lives. Certainly the pathway of development was very imperfect. It proceeded in company with the decomposition of the countless numbers of pre-lives and early lives. Even so, the repeated decomposition and renewed formation of various modes of pre-lives and early lives resulted necessarily in progress of evolutionary development and ultimately the success of biopoesis.

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EARTHQUAKE FRONT

AUTHOR: HSIANG Ch'Un [0686 5028]

ORG: None

TITLE: "Competing Theories of the Origins of Structural Earthquakes"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78  
pp 1-4

ABSTRACT: This installment deals with the "elastic rebound" hypothesis. Observations of a line of reference points perpendicular to the San Andreas fault in the period 1851-1907 showed progressive deformation until after the earthquake, when the line was discontinuous, with its two segments curving in opposite directions on opposite sides of the fault. This suggested the rebound of blocks which had been deformed under stress while in contact. Opposing movements on opposite sides of the fault built up strain energy until the frictional and adhesive forces holding the blocks together were overcome and the earthquake occurred. Support for the theory comes from the observation that in some earthquakes the observed directions (up or down) of the initial ground movements at points around the epicenter tend to fall neatly into 4 quadrants, with 2 opposite ones showing downward (compressive) motion and the other 2 showing upward (expansive) motion. The phenomenon is explainable in terms of the directions of drag and compressive forces in 2 deformed

[continuation of TI-CHEN CHAN-HSIEN No 1, 26 Feb 78 pp 1-4]

blocks in contact. The strength of such earthquakes depends among other things on the depth of the focus, since rocks are strongest, and can build up the most energy, at intermediate depths. Of 3 types of rock failure, brittle, transitional and plastic hardening, which can take place under such circumstances, it appears that the last-named may have a particularly important role in the occurrence of strong structural earthquakes.

AUTHOR: CHIANG Chin-ch'ang [5592 6930 2490]

ORG: Institute of Biophysics, Chinese Academy of Sciences

TITLE: "Animals--Sensitive Vibration Detectors"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78  
pp 5-9

ABSTRACT: Since unusual animal behavior may be a sign of an impending earthquake, it is important to understand the manner in which animals sense vibrations. Most animals, including rats, dogs, cats and even snakes, have very sensitive hearing in certain frequency ranges. The bodies of rats and cats are also sensitive to low-frequency vibrations. Rats can detect the motion of their surroundings through their fur, and mountain goats have patches of vibration-sensitive hairs just above their hooves. Certain fish have a number of low-frequency calls, and accordingly are sensitive to low-frequency vibrations. Spiders are sensitive to certain frequencies of vibration of their webs--those which would ordinarily be produced by trapped insects. Birds have organs in their feet which are sensitive to vibration.

AUTHOR: WEI Ch'Un [7614 5028]

ORG: None

TITLE: "The Secret of Anomalous Earthquake Intensities"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78  
pp 9-12

ABSTRACT: In the Hsing-t'ai [6717 0669] earthquake of 22 March 1966, measured intensities generally decreased with distance from the epicenter, but there were a number of regions of anomalously high intensity, arranged roughly semicircularly around the epicenter. A line of supplementary stations, ranging northwest from the epicenter through the anomalous region, was set up to measure the intensity of aftershocks. Anomalously high values were again noted at stations located between 70 and 120 km from the epicenter. Analysis of seismograms from these stations showed the presence of  $P_2$  and  $S_2$  waves which were lacking for other stations. These were shown to be waves reflected off the upper surface of the mantle, which in this area lies 40 km below the surface; the earthquake focus is some 30 km below the surface. While the direct P and S waves traveled at velocities of 5.9 and 3.50 km/sec respectively, the reflected waves traveled at 6.3 and 3.72 km/sec. The critical angle of reflection was 52-57°. At stations where reflection was almost complete, the  $S_2$  wave had about 3.6 times the intensity of the  $S_1$  wave.

AUTHOR: SUN Ching-ch'Un [1327 2529 5028]

ORG: Atmospheric Physics Institute, Chinese Academy of Sciences

TITLE: "The Atmospheric Electric Field"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78  
pp 13-17

ABSTRACT: The connection between the atmospheric magnetic field and earthquakes is a subject of interest to Chinese scientists. The potential difference between the earth's surface and the upper atmosphere is about 30,000 volts; the potential gradient at the surface is about 120 volts/meter. During clear weather there is a downward current flow of  $3.5 \times 10^{-6}$  amperes per square centimeter of the earth's surface. In addition to this downward flow, there is also a transfer of electricity in rain, and transfers in the opposite direction in lightning and discharge from the tips of plants and other objects. The magnitude of the current flow varies during the day, with maxima at sunrise and sunset. The conductance of the atmosphere varies according to the types of charged particles in the air, since charged dust particles migrate more slowly than small ions.

AUTHOR: LI Shan-pang [2621 6365 6721]

ORG: None

TITLE: "The Earliest Earthquake Records"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78  
p 17

ABSTRACT: The earliest earthquake record is contained in the CHU-SHU CHI-NIEN [BAMBOO ANNALS] [4554 2579 4764 1628], and corresponds to the year 1831 BC. Another earthquake is recorded for 1809 BC. Although the received text has many later interpolations, the philological work of WANG Kuo-wei [3769 0948 4850] established a more authentic text, and it is not unreasonable to consider the earthquake records reliable.



AUTHOR: PAO Nai-chieh [7637 6621 2212]

ORG: Pai-chia-t'uan [4101 1367 8859]Earthquake Observatory

TITLE: "Seismic Waves"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78  
pp 18-19

ABSTRACT: Seismic body waves are of two types, longitudinal (P) and transverse (S). These may travel directly through the earth's crust and be recorded elsewhere on the surface. They may be reflected off the earth's surface and travel further through the crust, with P waves sometimes changing to S waves in the process and vice versa. Waves that travel downward to the earth's core may be reflected (PCP, PCS, SCS) or refracted (PKS, PKP, SKS). Study of the behavior of such seismic waves can give important information about the internal structure of the earth.

AUTHOR: CHEN Hsiang [3914 4161]

ORG: None

TITLE: "Some Problems in Determining Earthquake Intensity"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78  
pp 26-28

ABSTRACT: Earthquake intensities measured at different stations are not all the same. In measuring intensity through surface waves the variation may be as much as a quarter of a degree. The reasons for this variation are: difficulty in determining the period of the surface wave of maximum amplitude, variations in measurement of maximum amplitude, the constants of individual seismographs, and special propagation characteristics at a given station. Variations are greater when the determination is made using body waves--as much as 1 degree. In measurements of near earthquakes (less than 1,000 km) local geology becomes particularly important, and the difficulties involved in determining the maximum amplitude and the period associated with it are especially acute.

AUTHOR: CHIN Hsiao [6855 2556]

ORG: None

TITLE: "Questions and Answers on Earthquake Fire Prevention"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78 pp 29-31

ABSTRACT: Since temporary earthquake housing is often of flammable material, the danger of fire is especially great. Candles should be placed where they cannot start a fire if upset, preferably in a sand-filled bowl. Lanterns should be securely hung or placed where they cannot be tipped over. Care should be taken in the use of coal oil and kerosene for lighting, heating or cooking.

AUTHOR: KAO Ch'ing-hua [7559 1987 5478]

ORG: None

TITLE: "Structural Systems"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78 pp 32-34

ABSTRACT: LI Ssu-kuang [2621 0934 0342], the famous Chinese geologist, developed a theory of geodynamics based on different types of structural systems. The main categories of these structural systems are: (1) lateral systems: east-west running systems such as the Yin Shan-T'ien Shan belt or the Ch'in Ling-K'unlun belt; (2) longitudinal systems, such as the north-south running systems in Yunnan and Szechuan; (3) torsional systems, including 5 main subtypes. The character "to" [多] type results from the intersection of parallel compressive structures with tension fracture zones at right angles to them; character "shan" [山] types consist of an arc and a perpendicular structure jutting into it. Twisted structures include types such as the "broom" shape or the "water lily" shape, the radiative shape, the S and reversed S; two intersecting elements sometimes form the character "ju" [入] structure, and complex intersections may sometimes form a checker-board pattern. All these characteristic structures give important clues to the strains in the underlying geological structures.

AUTHOR: None

ORG: Analytical Group of Laboratory No 2, Geophysical Research Institute, Chinese Academy of Sciences

TITLE: "Earthquakes in 1977"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78 pp 35-37

ABSTRACT: China had 176 earthquakes of intensity 4 or higher in 1977; 75 of these were aftershocks from the 1976 earthquake. The year was one of remarkably low earthquake activity, with the number of major earthquakes falling below the 1976 figure and the average for the 1950-1976 period. The cumulative earthquake intensity for 1977 was only 4 percent of the figure for 1976, 16 percent of the 1966-1975 average and 11 percent of the 1920-1966 average. A year (or two) or relative quiescence following a period of strong earthquake activity is a well-established pattern in China; examples include 1921, 1926, 1928-30, 1942-43, 1964-65 and 1967-68. Such periods never last longer than 3 years before giving way to periods of increased activity.

AUTHOR: HSIA En-shan [1115 1869 1472]

ORG: Instrument Group, Laboratory No 1, Institute of Geophysics, Chinese Academy of Sciences

TITLE: "A Stable 50-Cycle Circuit"

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78 pp 38-40

ABSTRACT: The accuracy of earthquake recording depends upon the stability of the power supply used to drive the recording drum motor. As the circuits in current use tend to develop instabilities under extreme conditions, a new circuit is proposed. A multivibrator produces a square wave which is then converted to a sine wave by a filter converter, amplified and used to drive a 50-cycle synchronous motor.

AUTHOR: None

ORG: None

TITLE: None

SOURCE: Peking TI-CHEN CHAN-HSIEN [EARTHQUAKE FRONT] in Chinese No 1, 26 Feb 78  
inner and outer front and back covers

ABSTRACT: The front cover is a painting of Hua Kuo-feng visiting the Pai-chia-t'uan [4101 1367 8859] Earthquake Observatory, entitled, "You Must Strive to Do Well in Earthquake Prediction." The back cover is a painting showing Chairman Hua visiting a peasant family entitled "Lunar New Year's Eve in the Earthquake Zone." The inner front and back covers show photographs from an earthquake conference attended by LI Hsien-nien, FANG I, CHI Teng-k'uei, WU Te, YU Ch'iu-li, CH'EN Hsi-lien and WANG Chen. FANG I, who gave a major speech, is shown greeting the delegates. LI Chien-p'ing [2621 1696 1627] is shown presenting a report. Some 12 progressive units were awarded "Learn From Tach'ing on the Earthquake Front" red banners, as well as pennants and other awards. Individual workers also received awards. A socialist competition was initiated.

8480

CSO: 4009

GEOGRAPHICAL KNOWLEDGE

AUTHOR: CH' IEN Hsuan [0467 1357]

ORG: None

TITLE: "Natural Gas Production Base Established at Luchow"

SOURCE: Peking TI-LI Chih-SHIH [GEOGRAPHICAL KNOWLEDGE] in Chinese No 1, Jan 78 p 7

ABSTRACT: Hundreds of natural gas fields have been built at Luchow in southern Szechuan at the upper reaches of the Yangtze River. Tens of pipelines have been laid to Chengtu, Tzukung, Iping and Nachi where natural gas is used as fuel for making chemical fertilizer, plastic products, synthetic fiber and rubber products. In Luchow itself a petrochemical complex has been built for oil refining, de-sulfurization and the production of carbon black. At present, the production of natural gas at Luchow is seven times that of 1965. The daily production far exceeds the annual production of the whole country in 1949.

AUTHOR: WEI Hung [0251 1347]

ORG: None

TITLE: "Automation of Cartography"

SOURCE: Peking TI-LI CHIH-SHIH [GEOGRAPHICAL KNOWLEDGE] in Chinese No 1, Jan 78 p 25-28

ABSTRACT: Three steps of automatic map-drawing by computer on the basis of previously stored numerical data are discussed in this article. (1) Coding of geographical information. Two types of devices are introduced: Hand-tracing graph-number converter and scanning graph-number converter. (2) Editing of graphic information. During this step, software plays an important role in preparing a readable map. (3) Automatic map drawing and connotation. An automatic cartographic system can also be used for weather forecast, seismic forecast and environmental protection. Two block diagrams are given: one for a complete computer system showing the interfacing of all components of the system; and the other showing the use of magnetic tape between the converter and the editing computer and the use of magnetic tape or teletype terminal between the editing computer and the map-drawing component.

1004

CSO: 4009

CHINESE JOURNAL OF INTERNAL MEDICINE

AUTHOR: None

ORG: Epilepsy Outpatient Clinic, Department of Internal Medicine, People's Hospital, Peking College of Medicine

TITLE: "Observation of Effects of Anti-epileptic Agent in the Treatment of 73 Cases of Epilepsy"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 321-322

ABSTRACT: On the basis of the Chinese traditional folk method of treating epilepsy with pepper and turnip, and the discovery in 1972 of the anti-convulsion action of piperine, the authors joined efforts with the Pharmacology Teaching and Research Group, the Department of Pharmacology, and the Pharmaceutical Plant to improve the folk treatment. In 1974, the anti-epileptic agent, a derivative of piperine, was successfully synthesized (methylene dioxycinnamoyl piperidide.) Following piperine, this is one more Chinese created effective, broadly applicable, anti-epileptic drug of low toxicity. Since February 1975, 177 cases of epilepsy, who had been treated with Western drugs without satisfactory effects, have been successfully treated with this drug; good results have also been obtained in another group of 73 cases for whom no other drugs have ever been used. Clinical data of these cases are reported and analyzed.

AUTHOR: None

ORG: Epilepsy Team, Neurology Department, Capital Hospital, Chinese Academy of Medical Sciences

TITLE: "Clinical Observation of Black-White Erh-ch'ou Pilula for the Treatment of Epilepsy"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 323-325

ABSTRACT: Seeds of *Ipomoea hederacea* Jacq. have traditionally been used for treating epilepsy. The team made the pilula from equal amounts of black and white seeds and honey. From July 1971 to February 1977, 135 epilepsy patients were randomly selected for treatment with this drug. In the group, 115 patients took the drug more than 3 months without other medication. Clinical and electroencephalographic observations indicate a total effective rate of 56.7 percent. The major element of the seeds appears to be pharbitin, the chemical property of which is similar to Jalapin. The effective element appears to be the water soluble portion and not the volatile oil portion.

AUTHOR: None

ORG: Department of Neuro-internal Medicine, Peking Friendship Hospital

TITLE: "Preliminary Analysis of Effects of Ch'uan-kung-ch'in for the Treatment of Cerebrovascular Diseases"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 p 325

ABSTRACT: Based upon the anti-coagulative action of Ch'uan-kung-ch'in [tetramethylpyrazine, an extract of Ligusticum wallichii Franch.] on blood platelets, the authors experimented with its use for the treatment of acute ischemic cerebrovascular diseases, during the recovery stage, and residual disorders of such diseases. A total of 83 cases were thus treated. It was obviously effective for twenty of the group; the condition was improved for thirty-four; it had no effect on three. During the treatment period, no obvious side-effects were observed, aside from two incidents of vomiting when it was administered in fast intravenous drip.

AUTHOR: KAO Hsiu-hsien [7559 4423 6343]  
LIU Hsiu-ch'in [0491 4423 3830]

ORG: Both of Department of Neurology, Capital Hospital, Chinese Academy of Medical Sciences

TITLE: "Clinical Effects of Ko-gen Tablets on 53 Cases of Migraine"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 326-327

ABSTRACT: Ko-gen [Pueraria pseudohirsuta Tang et Wang] is a leguminous plant used by Chinese traditional physicians to treat, among other diseases, migraine headaches. Studies carried out by Fu-wai Hospital and the Institute of Pharmacology of Chinese Academy of Medical Sciences verified its effect on headaches caused by hypertension. According to an intracranial angiographic study in Fu-wai Hospital, muscular injection of its extract can improve blood circulation of the brain. Based upon these results, the authors tested the tablets supplied by the Institute of Pharmacology, from November 1973 to October 1975, in the treatment of 53 cases of migraine. In more than 80 percent of the group, the frequency of the attacks was obviously reduced; except for eight of the group, for whom it produced no effect, the condition of the remaining was improved. Electroencephalograms were taken for twenty-seven and obvious improvements were detected.

AUTHOR: None

ORG: Department of Internal Medicine, Ho-p'u County People's Hospital, Kuangsi

TITLE: "Clinical Effects of Callicarpa Macrophylla Vahl for the Treatment of Hemorrhagic Ulcers in 296 Cases"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 328-329

ABSTRACT: Three species of Callicarpa are currently being used in China as hemostatics. This study, carried out since 1970, is limited to the use of the leaves of Callicarpa macrophylla Vahl, in three different preparations and four different ways of administration. All four groups of the 296 cases, the pulvis group, the tabella group, the injection group, and the tabella and injection group, achieved smooth recovery from massive hemorrhage. It is the opinion of the authors that the hemostatic action of this drug is no less effective than that of ordinary Western drugs.

AUTHOR: WANG Tzu-ts'ang [3769 1311 2088]

ORG: Department of Pediatrics, Shanghai Municipal Sixth People's Hospital

TITLE: "Report of One Case of Epileptic Attack With Interrupted Respiration"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 p 329

ABSTRACT: Epilepsy is a common disease and has many types, but some types are easily neglected, however. The author and colleagues treated a 7 year old girl, with interrupted respiration as the major clinical symptom of epilepsy. For more than 20 days, she coughed suddenly about 2 hours after she had fallen asleep, followed by absense of breathing for about one minute before she fell asleep again. This attack was repeated 4-5 times every night. A thorough physical examination produced the diagnosis of epilepsy. Treatment with pheny-tonium produced no effect, but the attacks were completely controlled after one week's administration of procaine.



AUTHOR: None

ORG: Brain Department and Department of Brain Surgery, General Hospital, Chinese People's Liberation Army

TITLE: "Abnormal Cerebrovascular Network in Base of Brain"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 330-332

ABSTRACT: Abnormal cerebrovascular network in base of brain is also known as cerebrovascular moyamoya disease, among several other names. According to the statistical report of NISHIMOTO in early 1974, 518 cases had been discovered in Japan. From November 1975 to August 1977, the General Hospital discovered five such cases. A brief history of each of the five is included. The clinical and cerebro-angiographic manifestations, and the pathogenetic mechanism of this disease are discussed.

AUTHOR: CH'U Chih-p'ing [4234 3112 1627]  
LU Ch'uan-chen [0712 0278 4176]  
YU Li-yun [0205 7787 0061]  
CH'EN Han-pai [7115 3352 4101]  
TING Yueh [0002 6885]

ORG: All of Hua-shan Hospital, Shanghai First College of Medicine

TITLE: "Epilepsy With Pain in Limbs"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 333-335

ABSTRACT: Since 1973, the authors have encountered 9 cases of epilepsy with excruciating pain in the sole of feet and in the joints of upper and lower limbs as the clinical expression of an attack. The history of each of the 9 cases is included in the paper. The common characteristics of these cases also include the fact that the attack all began before the patient was 10 year of age; the pain in multiple locations was felt in the bones; and anti-convulsion drugs were effective for controlling the attacks.

AUTHOR: T'ANG Cheng-sheng [0781 6966 3932]  
SHIH Yung-te [2457 3057 1795]  
LU Ch'uan-chen [0712 0278 4176]

ORG: All of Neuro-pathology Laboratory, Hua-shan Hospital and Biophysics Teaching and Research Group, Shanghai First College of Medicine

TITLE: "Method of Macrophage Electrophoretic Mobility [MEM] Test for the Diagnosis of Malignant Tumors and Observation of Its Preliminary Application"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 336-339

ABSTRACT: After an introduction of the principle and method of the test, the paper reports its experimental application in 388 cases, using basic protein derived from glioma (GBP) as the antigen. Subjects of the test included healthy adults and patients of various malignant tumors, brain tumors, diseases of the nervous system, and other diseases. Results are compared with results of other tests.

AUTHOR: None

ORG: Chien-chen Forestry Workers Hospital, Fukien Province; Chien-chen County Hospital, Fukien Province

TITLE: "Clinical Analysis of 93 Cases of Lung Fluke"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 p 339

ABSTRACT: The 93 cases included 77 males, 16 females, 33 adults, and 60 children. Most of them had eaten raw or partially cooked crabs, caught in their own locality. The incubation period appeared to have varied from 20 days to 5 years; most of them began to be sick in 1-3 months, however. Clinical manifestations, laboratory tests, and chest x-ray signs are reported. Treatment with various drugs produced cure in most cases; a few continued to suffer from recurrences.

AUTHOR: None

ORG: Chung-shan Hospital, Shanghai First College of Medicine; Shanghai Municipal Institute of Cardiovascular Diseases

TITLE: "Clinical Discussion of 74 Cases of Primary Myocardism: II. Obstructive Type and Limiting Type Primary Myocardism"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 340-346

ABSTRACT: Among other names, obstructive type primary myocardism is also called asymmetric ventricular septal hypertrophy. Fourteen such cases, 12 males and 2 females, are reported. The limiting type myocardism involves a thickening of the internal cardiac membrane so that the blood flow back to the ventricles is being limited. Eight such cases, 6 males and 2 females, are reported. The discussion of each type includes physical symptoms, x-ray signs, EKG signs, echocardiographic (supersound) signs, chemical tests, and treatment and its effects. There is also an extensive discussion on techniques of specific diagnosis, measures for treatment and prevention, and the prognosis of these two conditions of disorder.

AUTHOR: LI Ping-hsing [2621 3521 9515]

ORG: Department of Internal Medicine, Fu-yang District People's Hospital, Anhwei Province

TITLE: "Observation of Treatment of Diarrhea With Bileteral Tsu-san-li Point Injection of Promethazine"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 p 346

ABSTRACT: From January 1972 to September 1976, the department treated 150 cases of acute diarrhea with injection of 12.5-50 mg of promethazine in the acupuncture point Tsu-san-li of both feet, one to two times daily but not more than two days after the symptom has disappeared. Of the group, stool culture of 21 indicated the cause of diarrhea to be dysentery; 31 cases were also suffering from dehydration; eight from acidosis; fifty-five dehydration, acidosis, and shock. For the group the total effective rate was 94 percent. Side effects of localized pain, tranquilizing action, and numbness in the lower limbs disappeared a short time following the injection.

AUTHOR: SHA Sung-lin [3097 2646 2651]  
LIN Hsiang-t'ung [2651 4382 6639]

ORG: Both of Isotope Laboratory and Internal Secretion Team, Hua-shan Hospital, Shanghai First College of Medicine

TITLE: "Clinical Application of Triiodothyronine Suppression Test"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 347-349

ABSTRACT: Hyperthyroidism is a common disease of internal secretion, yet for some atypical cases in the outpatient clinics, error in diagnosis occurs easily. In the past due to difficulty in the supply of triiodothyronine ( $T_3$ ) in China, thyroid tablet suppression test was usually used. The latter takes a long time and there are obvious side effects, and the former has many advantages. Since  $T_3$  manufactured in China became available, the hospital has used it in 379 cases. The test results are analyzed and discussed in the paper.

AUTHOR: HSI Lien-kan [1598 5114 3227]

ORG: Chronic Bronchitis Treatment and Prevention Office, the 370 Hospital, Chinese People's Liberation Army

TITLE: "Analysis of Effects of Long-lasting Vaccine-Wu-t'ung-chieh for the Treatment of Chronic Bronchitis and Observation of the Immune Phenomenon"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 350-351

ABSTRACT: A certain effects had been obtained in the treatment of chronic bronchitis with vaccine-Wu-t'ung-chieh at the 370 Hospital (CHUNG-HUA I-HSUEH TSA-CHIH 56:559, 1976.) Since the initial success, an absorbing agent (aluminum hydroxide) has been added to make the long lasting injection fluid. Just as the original vaccine, bacteria were isolated from the phlegm of local patients and processed to make the long lasting vaccine. For treatment, 1 ml of the long lasting vaccine and two ml of the extract of Wu-t'ung-chieh [seed coat of *Firmiana simplex* (L.) W. F. Wight] are mixed just before administering the muscular injection, once a week for 70 days. For the group of 208 cases treated, the symptoms were obviously improved or controlled in about 80 percent of the cases. Immunological observations of these cases are also reported.

AUTHOR: CHANG Yu-lin [1728 3768 2651]  
FANG Szu-wen [2075 3201 2429]  
CHANG Chin-luan [1728 4897 7762]

ORG: All of Sinkiang College of Medicine

TITLE: "Determination of Normal Adult Hemoglobin A<sub>2</sub> of Uigur Nationality of Sinkiang"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 p 351

ABSTRACT: Hemoglobin electrophoresis is a reliable method for diagnosing hemoglobin disorders, while the determination of HbA<sub>2</sub> is the major basis for diagnosing mild  $\beta$  Mediteranean anemia. For the purpose of determining the normal HbA<sub>2</sub> value, the authors selected 50 healthy Uigur students for the test, 32 males and 18 females, between the ages of 20 to 28. One case of HbS disorder and another case of high HbA<sub>2</sub> were discovered in the group and excluded from the statistics. The average HbA<sub>2</sub> was found to be 2.07+0.67 percent. According to the report of the First Hospital of Chekiang University of Medicine from tests of 50 normal adults of the Han Nationality the average value is 2.54+0.35 percent. The difference may be related to the difference of nationality, but it may also be related to the method of testing.

AUTHOR: None

ORG: Parasitology Teaching and Research Group and Pediatrics Teaching and Research Group of Szechwan College of Medicine; Department of Pediatrics, Ya-an Special District Hospital, Szechwan Province; Chia-yang Coal Mine Workers' Hospital, Szechwan Province

TITLE: "Diagnosis of Lung Fluke With Agar Convection Immuno-electrophoresis and Agar Two-directional Dispersion Methods"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 pp 352-355

ABSTRACT: Eggs of lung fluke are difficult to find if the disease involves the brain, eyes, or subcutaneous tissues, and parasitism of these locations are common in Szechwan. In 1953, a skin test was created in China. The serum and cerebrospinal fluid complement test is also useful in general surveys, but in checking treatment effectiveness, difficulties still exist. As the convection immunoelectrophoresis technique has already been applied for the diagnosis of schistosomiasis, amebiasis, etc. the authors designed experiments to evaluate the value the convection and the two-directional dispersion techniques for the diagnosis of lung flukes. Details of these experiments are reported.

AUTHOR: HSU Jun-k'ui [1776 2837 1145]  
CHANG Lien-fa [1728 6647 4099]  
HSU P'ing-kuei [1776 1627 6311]  
JEN Kuo-ting [0088 0948 1353]

ORG: All of Nanking Municipal Center for Prevention and Treatment of Schistosomiasis

TITLE: "Acupuncture Point Injection of Hyoscine for the Treatment of Digestive Tract Reaction to Furapropylamine"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 p 355

ABSTRACT: Since August 1976, 72 cases of early stage schistosomiasis, all farmers, have been selected for treatment with a combination of furapropylamine and Dip-terex, in a dosage of 30 g of furapropylamine, administered in 11 days, and 200mg of Dipterex in one dose on the third to fifth day of treatment. The patients were divided into two groups: one group was injected with 5 mg of hyoscine in 1ml of 1 percent Procaine in each of two acupuncture points on the sixth and the ninth day; the other group, the control, was given drugs of Western medicine whenever reactions of the digestive tract to furapropylamine occurred. In the hyoscine group of 35 cases, there was no bloody stool and no treatment delay; in the control, the treatment had to be delayed for bloody stool in 13.5 percent of the cases.

AUTHOR: None

ORG: Department of Examinations, the 163 Hospital, Chinese People's Liberation Army

TITLE: "Observation of Fast Drug-sensitivity Test With 2,3,5-Triphenyl Tetrazolium Chloride, TTG"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 356-357

ABSTRACT: There are many techniques of testing drug sensitivity of bacteria in the laboratory, but the common ones usually require 10-24 hours and for critically ill patients, this is too long. The authors studied the technique recommended by Ellis et al (AMER J MED TECH 32:61, 1965) and made some improvements to create the agar dispersion technique using TTG. Accurate results may be obtained within 1-3 hours in most microbials with this technique. Since then, it has been clinically applied for several years and satisfactory results have been obtained in emergency rescue of critical patients of infectious diseases. The test procedure and the results are described.

AUTHOR: CH'EN Shou-nung [7115 1108 6593]

ORG: Infectious Diseases Teaching and Research Group, Chekiang University of Medicine

TITLE: "Several Problems Concerning Clinical Diagnosis of Viral Hepatitis"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 358-361

ABSTRACT: In 4 chapters, the paper discusses the following problems: (1) Concerning intrahepatic cholestasia type jaundice; (2) Significance of high transaminase in the diagnosis of hepatitis; (3) Persistent type and intermittent type chronic hepatitis; (4) Clinical significance of positive HBsAG test in hepatitis B. Various specific clinical conditions relative to the above four problems are evaluated.

AUTHOR: KAO En [7559 1869]

ORG: Hsiang-yang District School of Public Health, Hupei Province

TITLE: "New Staining Method for Reticular Red Cells"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 p 361

ABSTRACT: Reticular red cell count is an important index for evaluating red cell genesis of the body. The author and colleagues designed a technique of staining reticular red cells, using boric acid, sodium chloride, borax, soluble barbitol, and toluidine blue. This technique was used to determine the reticular red cell count of 60 healthy persons to arrive at an average value of  $0.48 \pm 0.24$  percent for adults and  $0.45 \pm 0.20$  percent for children. Details of the technique and the results of the experiment are described.

AUTHOR: YUEH Mei-chung [1971 5019 0022]

ORG: Hsi-yuan Hospital, Academy of Chinese Traditional Medicine

TITLE: "Chinese Traditional Medical Approach to Low Fever"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese Nov 77 pp 362-364

ABSTRACT: Prolonged low fever is a common clinical phenomenon. Based upon the principle of "treating the cause and the major factor," the author and colleagues cured a number of cases in recent years. In reporting these cases, the paper classifies this ailment into six types according to Chinese traditional medicine: (1) Low fever due to Yin and Yang deficiency of spleen; (2) Yin deficiency and over-heated type low fever; (3) Internal blood congestion type low fever; (4) Residual type (residual symptom of a cured disease) spleen deficiency low fever; (5) Internal heat accumulation type low fever; (6) Moisture accumulation type low fever. Histories of sample cases and their treatment with Chinese traditional drugs in each of the five categories are provided.

AUTHOR: CH'EN K'o-chi [7115 0668 0370]

ORG: None

TITLE: "Diagnosis and Treatment of Sick Sinus Syndrome"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 pp 365-369

ABSTRACT: Sick sinus syndrome includes inadequate sinus mechanism, sluggish sinus syndrome, lazy sinus syndrome, sino-atrial syncope, malignant auricular arrhythmia, Bradycardia-tachycardia syndrome, Bradyacardia-tachycardia-asystole syndrome, etc. This term explains precisely the major location of the disorder and reflects the fact that a diseased sino-atrial node can produce cardiac arrhythmia. This paper discusses its pathogenesis and mechanism, its clinical manifestations and EKG signs, its diagnosis and methods of assisting its diagnosis, and its treatment. For its treatment, the two aspects of treating the cause, including myocarditis, blood deficiency, etc. and treating the symptoms are discussed. Techniques using both Chinese traditional and Western methods (drugs) have proved that sino-atrial disorder is sometimes reversible. Continued efforts in its treatment are urgently required.



AUTHOR: SHAO Keng [6730 5087]  
T'AO Shou-ch'i [7118 1108 3217]

ORG: None

TITLE: "Appendix: Diagnostic References for Sick Sinus Syndrome in Peking Area"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 pp 369-370

ABSTRACT: This paper is presented as an appendix to the preceding paper (Diagnosis and Treatment of Sick Sinus Syndrome.)

ABSTRACT: Sick sinus syndrome is induced by many causes, but its major characteristic is a functional failure of the sino-atrial node, on the basis of a pathological change of the sino-atrial node or its surrounding tissues. It may be co-existent with other pathological changes of other parts of the heart, to produce various types of cardiac arrhythmia. There are mild cases of no or ambiguous symptoms, but in severe cases there may be clinical expressions of deficient blood supply to the brain, the heart, and the kidney, or even Adams-Stokes syndrome or sudden death. Its diagnosis should mainly be arrhythmia, combined with analyses of clinical expressions and functional tests. It cannot be based upon one isolated symptom and one particular test. Analyses of symptoms and test results relating to an accurate diagnosis of sick sinus syndrome are described in a step by step procedure.

AUTHOR: HO Wen-ch'un [0149 2429 4783]  
LI Min [0632 2404]  
WANG Chien [3769 7003]

ORG: All of An-shan Municipal Ch'ien-shan Tuberculosis Hospital, Liaoning

TITLE: "Treatment of Mediastinal Emphysema With Bilateral Subcutaneous Insertion of Tubes in the Neck"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 p 370

ABSTRACT: Since 1972, the authors have rescued three cases of critical subcutaneous emphysema of tuberculosis patients with mediastinal emphysema. The rescue technique involves inserting hard plastic tubes under the skin on both sides of the neck to withdraw gas and fluid. The tubes are inserted to a depth of about 5-6 cm, and are not removed until subcutaneous emphysema ceases to spread. In the case reported in the paper, the tubes were removed from the 27 year old man 7 days after the emergency rescue operation when subcutaneous emphysema disappeared completely, and mediastinal emphysema was cured. The procedure of inserting the tubes is described.

AUTHOR: LIU Hsiao-hsien [0491 2400 0341]

ORG: Wan-non College of Medicine [Anhui Province]

TITLE: "Diagnosis and Treatment and Prevention of Migraine Type Vascular Headaches"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 pp 371-374

ABSTRACT: Migraine type vascular headache is a unilateral headache induced by a confusion of the relaxing and contracting functions of blood vessels. The disease often starts when the victim is a youth, and it generally does not produce serious results. If the attacks are frequent and there have not been timely diagnosis and treatment, the disease may persist for many years to cause a great deal of suffering and to affect the ability of the victim to work. In this paper, the author discusses the concept of this disease according to Chinese traditional medicine as well as according to such authors as Liveing (1873) and Horton (1939) of Western medical literature on the subject. The clinical manifestations, the classification, the diagnostic techniques, and the principle of prevention and treatment are described. The treatment techniques are divided into the two sections of using Western drugs and using Chinese traditional drugs.

AUTHOR: CHIANG Ts'u-p'eng [5592 2945 7720]

ORG: Lan-chou College of Medicine [Kansu Province]

TITLE: "Report of Three Cases of Multi-chamber Type Liver Echinococcosis"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 p 374

ABSTRACT: Multi-chamber type liver echinococcosis is a parasitism caused by larvae of a type of cestodes. The paper reports treating three such cases, one a 35 year old woman and two men aged 49 and 29. All were commune members. Two of them died and postmortem verified the diagnosis. The third, the 29 year old man, survived the surgery and remained alive 4 years later although he often complained of pain in the liver region. The importance of distinguishing this disease from liver cancer is discussed.

AUTHOR: LIN Hsiang-t'ung [2651 4382 6639]

ORG: Hua-shan Hospital, Shanghai First College of Medicine

TITLE: "Progress in Radioactive Isotope Assessment of Thyroid Function"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 pp 375-380

ABSTRACT: On the basis of a previous paper of the author on the same subject (CHUNG-HUA NEI-K'O TSA-CHIH 13:988, 1965,) this paper discusses the progress in the recent decade in the use of radioactive isotopes for the evaluation of thyroid function. The discussion is divided into chapters on: (1) Iodine absorption tests; (2) Determination of the density of thyroid hormone in the blood circulation; (3) Examination of Subthalamus-pituitary-thyroid function; (4) Thyroid scanning (or photographing). In the conclusion, the technical advancement of the past decade causing gradual disuse of some common tests and existing problems in the assessment of thyroid function are discussed.

AUTHOR: CH'EN Hung-i [7115 1736 3015]

ORG: Health Protection Station, Tan-yang Cotton Textile Plant, Kiangsu Province

TITLE: "Report of Treatment of 14 Cases of Ulcers With Li-t'e-ling"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 p 380

ABSTRACT: Li-t'e-ling [Specially-effective-for-dysentery, Chinese trade name for Furaxone] was used to treat 14 cases of ulcers, 10 cases of duodenal ulcer, 3 cases of ulcer of the lesser gastric curvature, and 1 case of ulcer of the lesser gastric curvature as well as the duodenal bulb. The dosage was 0.1 g, 4 times daily for three days, then 3 times daily for four more days. A total of 2.4 g of Li-t'e-ling was administered in one week. After a rest of two weeks, There may be a second treatment. At the same time, vitamin B<sub>6</sub> (10 mg) and other Chinese traditional and Western drugs were also administered. Follow-ups of 11 cases produced no recurrence 6-12 months after the treatment; occasional mild pain remained in the other 3 cases. The paper also includes a note from the editor saying that prolonged use of Li-t'e-ling may cause multiple neuritis and the drug is best to be given with vitamin B<sub>1</sub>.

AUTHOR: None

ORG: Capital Hospital, Chinese Academy of Medical Sciences

TITLE: "Discussion of Clinical Pathology: Case No 11: Coma, Vomiting, Convulsion of Limbs of the Right Side, Tumor of Left Upper Abdomen"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 381-386

ABSTRACT: The case discussed in the paper was a 45 year old man, admitted as an emergency on 17 February 1974 after 4 hours of convulsion of the right limbs, vomiting, and sudden coma. He had suffered from a stomach ailment for many years. Techniques for reducing intracranial pressure and application of hemostatic drugs, antibiotics, and Chinese traditional drugs were used for emergency rescue of brain hemorrhage. Cerebroangiogram indicated congenital brain vascular deformity. Surgical correction was being debated as the patient's condition worsened. Cytological analysis of gastric contents disclosed late stage malignancy, with extensive metastasis. Chinese traditional anti-cancer drugs failed to improve his condition; he died on March 27 of the same year. Opinions of several physicians of departments of neurology, radiology, and internal medicine concerning this case and the post mortem pathological report are included.

AUTHOR: CH'EN Chia-wei [7115 1367 0251]  
HO Jung-hua [0149 2051 5478]  
HSUEH Wan-fen [5641 1238 5358]

ORG: CH'EN, HO of Department of Internal Medicine, Second Hospital, Kiangsu College of New Medicine; HSUEH of Pathology Teaching and Research Group, Kiangsu College of New Medicine

TITLE: "Pancreatic Cholera (Watery Diarrhea-Hypokalemia-Absence of Gastric Acid Syndrome"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] in Chinese No 6, 20 Nov 77 pp 387-388

ABSTRACT: This paper reports the case of a 60 year old woman who complained of diarrhea due to careless eating habits. There was no fever or other serious symptom. She was given drugs but 3 months later, she was experiencing watery diarrhea more than 20 times a day and was treated as bacterial dysentery with antibiotics without effect. She was admitted in the hospital. While searching for the cause of diarrhea, she was given intravenous drip of 100 mg/day of cortisol, which did not improve her condition. Pathological diagnosis after her death was malignancy of functional cells of pancreas. This case is extensively discussed.

AUTHOR: None

ORG: None

TITLE: "Injectio Hsin-hsueh-t'ung and Tabella Mo-hsin-t'ung"

SOURCE: Peking CHUNG-K'IA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE]  
in Chinese No 6, 20 Nov 77 p 390

ABSTRACT: Hsin-hsueh-t'ung is an extract from the heart and muscles of mammals in an aseptic water solution for injection. When this water solution is pressure concentrated to make tablets, they are called Mo-hsin-t'ung. Both drugs contain nucleotides and many necessary amino acids. They can improve myocardiac blood supply and function, dilate brain and other vessels, regulate metabolic balance, and have tranquilizing effects as well. They may be used to treat acute, chronic, and toxic nephritis, hepatitis, fatty liver, scleroderma, psoriasis, etc. and are also useful for angina pectoris, myocardiac infarction, etc. Both drugs are produced by Peking Municipal Hsi-ch'eng District Pharmaceutical Plant.

6168

CSO: 4009

CHINESE MEDICAL JOURNAL

AUTHOR: HO Ch'ing-yu [0149 3237 1342]  
WU Hsien-chung [0702 0752 0022]

ORG: Both of Tientsin Municipal Nan-k'ai Hospital and Tientsin Municipal Institute of Combined Traditional and Western Medical Treatment of Acute Abdominal Diseases

TITLE: "Further Understandings From Two Years of Treatment of Perforated Ulcers With Combined Chinese Traditional and Western Medicine"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 655-658

ABSTRACT: This paper summarizes the condition of treatment of 170 cases from January 1975 to March 1977. Typical symptoms and signs of acute perforation of ulcers were present in all at the time of admission to the hospital, but 137 of the group were selected for non-surgical treatment. Of the 137, satisfactory effects were obtained for 120; the remaining were transferred to surgery. The non-surgical treatment includes electrical acupuncture, gastrointestinal decompression and washing, abdominal puncture to drain and external application of drugs at the point of puncture, internal application of traditional drugs according to the symptoms. Aside from one case of mild subphrenic infection there were no complications. The treatment effects are compared with those of a non-surgical group of 290 cases treated in 1964-1974.

AUTHOR: LI Tsung-min [2621 1350 3046]  
WANG Chiang-hua [3769 3068 5478]  
YANG Chen-chung [2799 2182 1813]  
CHOU Kuo-hsiu [0719 0948 4423]  
TS'UI Kui-fu [1508 2710 4395]

ORG: All of Department of Osteopathy, Peking Railway Hospital

TITLE: "Suspension and Manipulation Technique for the Treatment of Protrusion of Lumbar Intravertebral Disk"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 659-661

ABSTRACT: Inspired by a technique described as a part of the massage treatment in a classical treatise of Chinese traditional medicine for lumbago, the authors began in 1965 to combine it with the anatomical characteristics of the intravertebral disk to create the technique of vertical suspension and manipulation for the treatment of protrusion of lumbar intravertebral disk. So far 74 cases have been thus treated, and 48 of these were cured. The technique was without effect on 4 of the group; the condition of the remaining was improved in various degrees. The technique is explained in detail, including drawings and a formula to calculate mathematically the amount of force to be applied based upon the body weight of the patient.

AUTHOR: CH'I Hui [7871 1979]

ORG: The 304 Hospital, Chinese People's Liberation Army

TITLE: "Roentgenographic Signs of Incomplete Closure of Oddi's Sphincter"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 p 658

ABSTRACT: The case of a 42 year old man is reported. He had a history of more than 10 years of stomach pain and acid indigestion, with occasional nausea and vomiting. Massive hemoptysis had occurred three times. Treatment with Chinese traditional drugs produced no effect. Surgery disclosed early stage of cirrhosis of the liver, a gallbladder swollen to the size of a duck egg, and round worms in the common bile duct. Functional defect of the sphincter of Oddi was the diagnosis. Clinical and x-ray signs of this case are discussed.

AUTHOR: YANG Ho-ch'un [2799 0735 2504]

ORG: Department of Ophthalmology, a Certain Air Force Hospital of Chinese People's Liberation Army

TITLE: "Report of One Case of Ectrogenic Absence of Right Eyeball and Dysgenesis of the Left Eyeball"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 p 661

ABSTRACT: Ectrogenic absence of eyeball is rarely clinically observed. There has been a report of one case in 1965 in China by LU Chi-hua [4151 3112 5478]. The author came across another in 1974. The patient was a 20 year old commune member, complaining of irregular pain and swelling of his right eye. Upon examination, the right eyeball was found to be absent and the vision of his left eye was poor, with a smaller than normal eyeball, and vibrating horizontally. Surgery revealed eyeball tissues just below the right orbit. There has been no recurrence of pain and swelling of the right eye since the surgery.

AUTHOR: YANG T'ien-k'ai [2799 1131 7030]

ORG: Public Health Team, the 81069 Troop, Chinese People's Liberation Army

TITLE: "Treatment of Burns of Hand With Old Pine Bark and Chinese Tobacco"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 662-663

ABSTRACT: This paper reports 100 cases of burnt hands (136 hands.) The age of the patients varied from 8 months to 55 years, and most of the cases were second degree burns. Bark of oil pine [*Pinus tabulaeformis*] is burned to become ash, which is mixed in oil [sesame oil ?] to form paste. If the paste has been prepared beforehand and stored, it should be sterilized in dry heat before use; freshly prepared paste may be used without sterilization. One liang of oil is heated separately in a ceramic dish (it must not be a metal dish) until boiling, and the main vein of a Chinese tobacco leaf should be washed and dried and placed in the boiling oil until it turns black in color. The oil is then filtered and cooled to be applied to the wound first before a thin layer of the paste is applied. All 100 cases were given penicillin or streptomycin in muscular injections for 3-4 days initially, and the antibiotics were discontinued if there was no fever and the wound was not infected. All hands regained normal function in 9 to 24 days without obvious scars, except one, which suffered third degree burns. The function of this hand was mildly affected after healing and there were uneven scars.

AUTHOR: None

ORG: Physiology Teaching and Research Group, and Acupuncture Anesthesia Research Group, Shansi College of Medicine

TITLE: "Experimental Study on the Control of Visceromotor Type Muscular Tension of the Abdomen"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 664-667

ABSTRACT: Tension of abdominal muscles during abdominal surgery under acupuncture anesthesia is caused mainly by visceral pulling stimulation and is a constituent part of the reaction. This has been one of the important subjects of research in acupuncture anesthesia. The authors used sustained electrical charge of abdominal muscles induced by mechanical stimulation of internal organs as the index of observation to test the control effect of finger pressure or needling of Pei-yu point (in the muscle by the side of the vertebra) on the reflex type electrical charge of the abdominal muscles. (HSIN I-YAO-HSUEH TSA-CHIH No 7, 1975 p 30.) On the basis of the study, the effect of finger pressure or electrical acupuncture in points of limbs and body on electrical charge of abdominal muscles and its relationship with different segments of the vertebra are studied. There is also a preliminary analysis of the nervous mechanism of this type of control effects. Forty-two rabbits are used in the experiment.



AUTHOR: LI Chiang-hsueh [2621 5592 7185]  
YU Ta-chung [0060 6671 0022]

ORG: Both of Kuan-nan County People's Hospital, Kiangsu Province

TITLE: "Report of One Case of Malignant Neurilemoma of Esophagus"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese  
No 11, 15 Nov 77 p 667

ABSTRACT: Malignant neurilemoma seldom occurs in the esophagus. The case of the 44 year old man occurred in November 1973. He had felt a throat discomfort for more than 18 months and the condition had been worsening for 3 months. X-ray disclosed a tumor in the upper section of the esophagus and pathological analysis of the surgically removed tumor proved it to be malignant neurilemoma. Follow-ups 22 months after the surgery found the patient to be in good health and able to eat and work normally.

AUTHOR: CHU Sheng-hsiu [2612 4141 0208]  
CHANG Po-lsun [1728 0130 6064]  
CH'EN Ching-yun [7115 2529 0061]  
LU Shih-pi [4151 0013 3880]  
MA Ch'eng-hsuan [7456 2110 1357]

ORG: All of Department of Osteopathy, General Hospital, Chinese People's Liberation Army

TITLE: "Analysis of Treatment Effects of Massage on the Protrusion of Lumbar Intervertebral Disk"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese  
No 11, 15 Nov 77 pp 668-671

ABSTRACT: Protrusion of lumbar intervertebral disk is the most common cause of lumbago among the working people of China. The Chinese traditional massage technique has been extensively adopted to treat this disease and there have been different reports concerning its effectiveness. The authors have used the technique for 6 years and records of 263 are relatively complete. The clinical data of these cases are analyzed. The relationships between the duration of the disease and the effectiveness of the technique, the x-ray signs and the effectiveness, and the number of times of the massage treatment and the effectiveness are discussed. Surgical discoveries of 101 cases for whom the massage technique had not been effective are reported.

AUTHOR: None

ORG: Pediatrics Department, Second Hospital, San-ming District, Fukien;  
Pediatrics Department, First Hospital, San-ming District, Fukien

TITLE: "Observation of Effects of Barefoot Doctor Acupuncture Treatment on 95 Cases of Childhood Ascaridosis of the Bile Duct"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 672-673

ABSTRACT: All 95 cases of the group had typical symptoms of ascaridosis of the bile duct. According to the standard of classification reported by the Acute Abdominal Diseases Research Group of Tsun-i College of Medicine (HSIN I-HSUEH Vol 10 No 3, 1971) 68 cases belonged to the simple type and 27 cases belonged to the inflammatory type. There was also a control group of 77 cases treated with drugs. There was no obvious difference in the treatment effects of both groups. Histories of three typical cases are included.

AUTHOR: CH'IN Wen-pin [4440 2429 2430]  
WANG Feng-ch'i [3679 7685 2978]

ORG: CH'IN of Biochemistry Teaching and Research Group, Pao-t'ou Special School of Medicine; Teaching and Research Group of the Department of Internal Medicine, Inner Mongolia College of Medicine

TITLE: "Diabetes Mellitus and Hemoglobin A<sub>1</sub>"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 674-676

ABSTRACT: The red cells of normal adults contain at least three types of hemoglobin: A, A<sub>2</sub>, and A<sub>1</sub>; the last type is also called A<sub>3</sub>. The A<sub>1</sub> had been reported in foreign countries to increase in diabetes mellitus, but this increase was judged to be transitory. After treatment or after the blood sugar is reduced to 200 mg percent, the increase can no longer be detected. In 1969, the authors discovered that under certain conditions the rate of detection of A<sub>1</sub> can be improved. Following a series of experiments, a relatively simple condition and method for detecting A<sub>1</sub>, suitable for clinical application and more specific than the blood sugar test was obtained. This technique is introduced in the paper. The electrophoresis technique described in the paper also serves to prove that the relationship between electrophoresis and A<sub>1</sub> (or A<sub>3</sub>) is rather complicated.

AUTHOR: None

ORG: Internal Secretion Research Laboratory and Isotope Laboratory of Department of Internal Medicine, Jui-chin Hospital, Shanghai Second College of Medicine

TITLE: "Clinical Application of Iodine<sup>131</sup>-19-Cholesterol Iodide Image of Adrenal"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 677-678

ABSTRACT: Cholesterol is the antecedent of adrenocortical hormone; therefore, the normal suprarenal cortex can collect radioactive iodine<sup>131</sup> labeled 19-cholesterol iodide, while hypertrophic suprarenal cortex or tissues of adenocarcinoma can collect even more. Such concentration of radioactive materials can be revealed with a scintillating  $\gamma$  camera to obtain an adrenal image or photo. Since April 1975, the authors have used this new technique to examine 35 patients of adrenal diseases. The technique and the results of the examinations are reported.

AUTHOR: LIANG Jung-ken [2733 2837 2704]

ORG: Kansu Provincial Public Health and Epidemic Prevention Station

TITLE: "A Simple Method of Inspecting Antigenic Change of Influenza Virus"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 679-681

ABSTRACT: In 1966 the author and colleagues first proposed the use of serum of recovery stage of infant victims of influenza to study the antigenic changes of influenza virus (CHUNG-HUA I-HSUEH TSA-CHIH 50:20, 1966). In 1972-1975, this method was continuously employed to examine the condition of antigenic changes of the newly isolated A<sub>3</sub> type influenza virus. The four years of actual practice demonstrated the fact that this method is simple and fast and the results are clear and precise. Moreover, the results truly reflect whether or not there have been new changes in the prevailing strain and the process of antigenic changes in influenza virus. The procedure of this method is described and the results of the experiment from 1972 to 1975 are reported.

AUTHOR: None

ORG: Department of Occupational Diseases, Third Hospital, Peking College of Medicine

TITLE: "Immuno Disease of the Respiratory Tract Induced by Organic Dust: Health Survey of Workers of the Subtilin Industry"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11,15 Nov 77 pp 682-684

ABSTRACT: All of the workers engaged in the subtilin extracting process of the ATP production shop of a certain plant complained of various degrees of chills and fevers, general weakness, cough, and short of breath every time they participated in the enzyme extraction work. In order to clarify the pathogenesis of these symptoms, a preliminary investigation was carried out. The entire twelve workers were given a thorough physical examination, and a throat culture was taken for immunological analysis. Two of these had been working less than six months, the remaining had all worked 5-6 years in that shop. Although chest x-ray revealed no obvious changes on the lungs, irreversible pathological changes leading to extrinsic allergic alveolitis or hypersensitivity pneumonitis were obviously in the making. The origin of the harmful antigens was mainly subtilin used to extract the enzyme. Improvement in the work process to protect the health of the workers is suggested.

AUTHOR: SUNG Wen-hu [1345 2429 5706]  
WU Kui-min [0702 2710 2404]  
HENG Kui-ying [1854 2710 5391]  
CHANG Shu-fen [1728 3219 5358]

ORG: All of Peking Municipal Center of Tuberculosis Prevention and Treatment"

TITLE: "Simultaneous Administration of Smallpox Vaccination and Bacille Calmette Guerin (BCG) Vaccine"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 p 684

ABSTRACT: Simultaneous administration of vaccination and BCG to newborns to produce mutually unaffected results had been reported in the past (CHUNG-HUA CHI-HO-PING-K'O TSA-CHIH 5:273, 1957,) and identical conclusion had also been reported in case of elementary school children (BULL. WHO 35:633, 1966.) In 1974, the authors adopted this method to immunize 7-13 year old children of a rural village of Peking. Control groups were established for comparison. The results also demonstrate that simultaneous inoculation does not affect the results of either agent, and does not increase the risk of complications.

AUTHOR: TS'AO Tan-ch'ing [2580 0030 1987]

ORG: Department of Radiology, the 302 Hospital, Chinese People's Liberation Army; Department of Radiology, the First Hospital, Pao-ting District, Hopei Province; Department of Radiology, General Hospital, Chinese People's Liberation Army

TITLE: "Roentgenographic Analysis of 22 Cases of Acute Pulmonary Mycosis"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 p 685

ABSTRACT: Extensive application of broadspectrum antibiotics, hormones, and anti-cancer and anti-leukemia drugs of recent years has brought on an increase of incidence of fungal infection of the lungs. Due to the fact that x-ray signs of chronic mycosis are few and unfamiliar and the fact that there have not been many reports of acute pulmonary mycosis, it is often diagnosed as bacterial pneumonia by mistake and continued treatment with antibiotics may cause the fungi to spread leading to death of the patient. For this reason, the clinical and roentgenographic data of 22 cases are reported here, with the emphasis on analyses of the specific x-ray signs to aid early diagnosis and correct treatment.

AUTHOR: CHANG K'o-chin [1728 0344 6930]  
CHOU Ch'eng-ming [0719 2110 2494]  
WANG Hsiao-wen [3679 2556 7186]  
CHENG Hui-ch'in [6774 1979 3830]

ORG: All of Pharmacology Teaching and Research Group, Sinkiang College of Medicine

TITLE: "Anti-Arrhythmic Action of Nicotinamidum"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 p 687

ABSTRACT: It had been demonstrated through extracorporal experiment with rabbit heart that nicotinic acid can lessen ventricular fibrillation induced by electrical stimulation (PROC. SOC. EXP. BIOL. MED. 65:76, 1947.) Based upon this report, experiments were carried out by the authors to study the preventive and treatment effects of nicotinamidum on many types of experimental arrhythmia. Experiments on the action of nicotinamidum to prevent ventricular fibrillation induced by electrical stimulation, to treat cardiac arrhythmia caused by barium chloride, to prevent cardiac arrhythmia induced by adrenalin are reported. Rabbits were used in all three experiments.

AUTHOR: SUNG Kuo-hsiang [1345 0948 4382]  
T' IEN Wen-fang [3944 2429 5364]  
CH' IANG Tung-fang [1730 2639 5364]  
LIU Chia-yu [0491 1367 1342]

ORG: SUNG, T' IEN, CH' IANG of Department of Ophthalmology, T'ientsin College of Medicine Hospital; LIU of Department of Ophthalmology, Canton Municipal First People's Hospital

TITLE: "Surgical Approach to Orbital Varices"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 688-691

ABSTRACT: Orbital varix is a venous deformity of a congenital factor. Whenever the victim bows down his head, sneezes, laughs, cries, etc. to cause the cervical venous pressure to rise, the eyeball of the diseased side will protrude, with accompanying symptoms of blurred vision, pain of the orbital region, headache, nausea, etc. These symptoms will disappear when the victim stands up and the eyeball will return to its original place. Correct diagnosis involves an understanding of the location of the varicose veins and the condition of the facial vessels, etc. with the aid of x-ray, before surgical correction. Observations of surgical results of 24 cases are reported. Three different surgical procedures are described.

AUTHOR: None

ORG: Department of Ear, Nose, and Throat, First Hospital, Hunan College of Medicine

TITLE: "Auriculo-genetic Brain Edema: With Clinical Analysis of 16 Cases"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 692-695

ABSTRACT: Auriculo-genetic brain edema is a cranial complication of otitis media purulenta. Major clinical symptoms include increased cranial pressure and involvement of cranial nerves. There is no obvious intracranial pathological signs and the prognosis is good, however. From March 1963 to February 1976, the department treated sixteen such cases. There was only one death in the group. The clinical manifestations and the treatment procedures of these cases are digested.

AUTHOR: HU Shih-ch'i [5170 0099 3823]  
IAI Fu-ch'un [6351 4395 2504]  
LI Ch'i-fen [2621 1142 5358]  
TENG Chi-ch'ang [6772 1323 1603]  
TS'AO Hui-ch'un [2580 6540 5028]  
CH'EN Chu-lin [7115 1446 2651]  
LI Hsien-yu [2621 6343 3768]  
LIU Yen [2692 3601]

ORG: None

TITLE: "Preliminary Report of a Survey of Clonorchis Sinesis in Chiang-pei District of Chungching, Szechwan Province"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 p 695

ABSTRACT: In August 1975, a Clonorchiasis patient was treated in the infectious diseases department of a certain hospital. For the purpose of clarifying the pathogenetic origin of this disease for effective prevention and treatment, the authors carried out a survey from November 1975 to April 1976. All members of two selected production teams, all workers of two selected factories, and all inhabitants of four residential centers were examined to arrive at a rate of infestation of 3 percent. A large quantity of snails (*Parafossarulus striatulus*) examined did not produce larva of this parasite, but examination of 11 species of fishes which serve as secondary hosts did manifest a low level of infestation, however. The 35 cases discovered during the survey were treated and cured.

AUTHOR: CH'EN Hung-to [7115 3163 6995]

ORG: Dermatology Department, First Hospital, Shenyang College of Medicine

TITLE: "Clinical Observation of 105 Cases of Moniliasis Treated With Oral Administration of Clotrimazolum"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 696-698

ABSTRACT: Clotrimazolum is a new broadspectrum anti-fungal drug, synthesized by the Institute of Pharmaceutics, Chinese Academy of Medical Sciences in 1971. Mice test results indicate a half effective dosage of 58 mg/kg of body weight and a half oral lethal dosage of 560 +64 mg/kg of body weight. This paper reports its oral administration to 105 cases of moniliasis; 101 cases of the group were visceral moniliasis. Most cases were the result of prolonged application of antibiotics, cortical hormones, anti-cancer drugs, immuno-suppressants, intravenous fluid infusion, etc. Side effects of clotrimazolum, in the form of gastrointestinal distress, were detected in 63 cases (60 percent.) Its total effective rate against moniliasis was observed to be 76.2 percent in this group.

AUTHOR: KUO Jui [6751 3843]  
YANG Chun-chih [2799 4783 2535]  
YANG Shou-te [2799 1343 1795]

ORG: KUO of Pao-t'ou Special School of Medicine Hospital; YANG of Inner Mongolia Autonomous Region Hospital; YANG of Pao-t'ou Municipal Fifth Hospital

TITLE: "Composition and Antigenic Characteristic of the Fluid of Hydatid Cyst and its Value for Immuno-diagnosis"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 699-700

ABSTRACT: Echinococcosis is a common disease of pastoral regions. In order to search for ways of fast diagnosis and elimination of this disease, the authors began in 1955 to study the contents of echinococcotic hydatids, their antigenic characteristics, and immuno-diagnostic value. The fluid composition of the cysts found in Pao-t'ou municipality, in Hu-ho-hao-t'e Municipality, and in I-k'o-chao League was compared. Test results indicate that the fluid content of the cysts of patients of different areas has the same antigenic characteristic and the skin test is a valuable diagnostic method for echinococcosis.

AUTHOR: None

ORG: Certain Hospital, Chinese People's Liberation Army

TITLE: "Report of One Case of Foot Maduromycosis"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 p 700

ABSTRACT: The 30 year old man had had boils and open sores on the back of his left foot for 12 years. The boils were surgically removed in 1967, but in 1973, the scars turned into open sores. The wounds healed spontaneously two years later, however, but swellings became more obvious than ever. Internal administration of potassium iodide produced no effect. Extensive surgery and skin graft were performed. Follow-up in two years revealed no recurrence. Diagnosis of maduromycosis was confirmed by pathological analysis. The patient was born and raised in Hainan Island and had never visited any place outside the island.



AUTHOR: T'AO San-chu [7118 0005 5418]

ORG: Institute of Prevention and Treatment of Epidemic Diseases, Chinese Academy of Medical Sciences

TITLE: "Problems Concerning the Observation of Preventive and Treatment Effects of Anti-influenza Drugs:

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 701-703

ABSTRACT: Influenza can spread quickly over a large area and the influenza virus changes constantly to cause its prevention with vaccination very difficult. In recent years, mass movements of influenza prevention with Chinese traditional drugs have produced some delightful progress, but the work remains in the preliminary stage. More strict designs of experiments, critical observations, and detailed analyses are needed to affirm or to disprove the preventive and treatment effect of a drug. Problems relating to verifying the anti-influenza effects of a drug, such as the establishment of control groups, a sufficiently large number of observed cases, techniques of laboratory tests, etc. are discussed.

AUTHOR: CHAO Kuang-sheng [0392 0342 0524]

ORG: Shanghai Municipal Institute of Hypertension

TITLE: "Reasonable Application of Anti-hypertension Drugs"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 704-707

ABSTRACT: In recent years, treatment of hypertension has been based upon the patho-physiological changes and characteristics of individual patients, and anti-hypertensive drugs are selected according to their specific action in counter-acting the major mechanism of hypertension of the individual. Based upon the pharmacological action, such common hypotensives as clonidine, methyldopa, reserpine, practolol, vessel dilators, propranolol, minoxidil, diazoxide, arfonad, mecamlamine, and common diuretics are divided into four major categories, and several subcategories to discuss the proper method of their application. Specific problems in the treatment of hypertension in case of pregnancy, diabetes, high blood nitrogen content, surgical anesthesia, cardiac diseases, and other concurrent diseases are discussed.

AUTHOR: HSING Wen-heng [6717 2429 9513]  
CHOU Chung-ta [0719 0112 6671]

ORG: HSING of Anhwei College of Medicine; CHOU of Anhwei Provincial Institute of Medical Sciences

TITLE: "Improved Lung Capacity Experiment Device for Measuring Muscular Tension of the Bronchus"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 708-709

ABSTRACT: This paper first introduces the structure and theory of the Konzett-Rossier device (ARCH. EXP. PATHOL. PHARMACOL. 195:71, 1940) for determining the muscular tension of animal bronchi before explaining a simplified device designed by the authors in 1965 for pharmacological research. A figure produced by the re-designed device depicting the effects of aminophyllinum on the muscular tension of guinea pig bronchus is included in the description. Several problems relating to experiments on animal respiration are discussed.

AUTHOR: KAO Yung-po [7559 3057 3134]  
YEH T'ien-shun [0673 1131 7311]

ORG: Both of Department of External Medicine, Wu-chou District People's Hospital, Kuangsi Province

TITLE: "Vagina Construction With Sigmoid colon for the Treatment of Congenital Absence of Vagina"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 11, 15 Nov 77 pp 710-711

ABSTRACT: Congenital deformity of vagina does not have a great deal of effect on the victim's health, but it remains a painful condition for her. The authors came across six cases of congenital absense of vagina among the ten plus cases of vaginal deformities. Surgical construction with sigmoid colon was performed for three of the 6 cases. The surgical observations of the 3 cases, the surgical procedures, and important items concerning these surgeries are reported.

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Hupei Province

TITLE: "Diagnoses and Treatments of 15 Cases of Skin Amebiasis"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese  
No 11, 15 Nov 77 p 711

ABSTRACT: Skin amebiasis is not rare, but it is often treated for dermatological disease symptoms, while the history of the infection and the patient's general physical condition are often ignored to cause errors in the diagnosis. Based upon the characteristics of the skin lesions of the 15 cases, the authors divided the disease into the four types of infection type, rash type, boil type, and ulceration type. Clinical data, laboratory analyses, and treatment of the 15 cases are briefly reported.

AUTHOR: None

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Szechwan Province

TITLE: "Roentgenographic Analysis of T Type Duct Cholangiography in 70 Cases"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese  
No 11, 15 Nov 77 p 712

ABSTRACT: Of the 70 cases, the upper branch of the T-shaped duct was observed in x-ray to be located in the right hepatic duct in 21 cases, in the left hepatic duct in 6 cases; both the upper and lower branches in the right hepatic duct in one case, and both in the common bile duct in the remaining 43 cases. Relationship between the displacement of the T-shaped duct and the pressure received by the bile duct is discussed. Atrophia of the hepatic lobe should be the first consideration in case of pressure, displacement, or deformation of the intrahepatic duct, before consideration of other diseases outside of the liver. More cases are needed to accumulate experience with respect to specific diagnosis, however. Clinical data and x-ray signs of the 70 cases are reported and discussed. Illustrations of x-ray pictures are included.

AUTHOR: None

ORG: Ch'ang-wei District People's Hospital, Shantung Province

TITLE: "Roentgenographic Studies of Small Intestine Volvulus Following Manual Jolting"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 70-74

ABSTRACT: In 1958, the staff of the hospital started to learn the massage technique of Chinese traditional medicine to treat "coacervation ailments;" improvements were made to the technique later to form the manual jolting technique to treat acute childhood volvulus of small intestines. The effect obtained has been rather obvious. Of the 100 cases of early stage volvulus, 85 percent were cured without risking abdominal surgery. The superiority of Chinese traditional medicine in the treatment of acute intestinal obstruction is thus fully demonstrated. X-ray diagnoses, the manual jolting treatment procedures, and x-ray changes after the treatment of these cases are reported. The paper also includes a roentgenographic study of experimentally induced volvulus in rabbits and their recovery by the manual jolting technique.

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TITLE: "Jejunal Sundrome"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 75-79

ABSTRACT: Chronic and stubborn abdominal distention and pain are common symptoms of gastrointestinal diseases and may be induced by many causes. X-ray investigations of some patients of these symptoms revealed a condition of localized jejunal distention and abdominal surgery disclosed a condition different from ordinary chronic obstructive intestinal diseases. From April 1970 to January 1976, a total of 56 such cases were discovered. At present, the pathogenesis, the disease development mechanism, and the preventive and treatment methods of this jejunal syndrome are still not entirely understood. For the purpose of calling attention to the existence of this condition, this paper reports its clinical manifestations, its x-ray diagnosis, and its pathological changes.

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ORG: CH'EN of Department of Radiology, Hua-shan Hospital, Shanghai First College of Medicine; HSIA of Department of Radiology, Ch'ang-wei District People's Hospital, Shantung Province

TITLE: "On Roentgenographic Diagnosis of Sigmoid Colon Volvulus"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chese No 2, 15 Feb 78 pp 80-83

ABSTRACT: Diagnoses of sigmoid colon volvulus depend primarily upon x-ray examination. Although there have been extensive reports of roentgenographic data in the past concerning this condition, solutions to some related problems remain unsatisfactory, while these problems should be clarified during treatment, especially when combined Chinese traditional and Western techniques are adopted for treatment. For this reason, the authors gathered the data of 66 cases, treated at the two hospitals in the 20 years between 1956 and 1976 to discuss these problems. The discussion includes the x-ray manifestations and diagnosis of semi-closed obstruction type sigmoid colon volvulus (i.e. the simple obstruction type,) the method of using the direction of the twist as observed in the x-ray (barium meal) picture to estimate the degree of twist in order to select a suitable method of treatment, and the atypical x-ray manifestations of the closed obstruction type and their diagnoses.

AUTHOR: None

ORG: Ch'ang-ko-lin Clinical Research Cooperative Group

TITLE: "Clinical Observations on the Anti-arrhythmic Drug, Changkelin"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 84-86

ABSTRACT: Changkelin [Ch'ang-ko-lin] is an anti-arrhythmic drug produced in the process of reconstructing the chemical structure of the B element of the Chinese traditional drug Ch'ang-shan [Dichroa febrifuga Lour.] In the process of using this drug to treat malaria, the authors discovered its action in improving cardiac arrhythmia. Laboratory research also proved its effectiveness in experimental arrhythmias in rabbits and dogs. A clinical research program to test this new anti-arrhythmic drug was launched in 1974. This paper reports the clinical observations.

AUTHOR: WANG Hsien-lin [3769 2009 2651]

ORG: Pulmonary Department, Ch'ung-ch'ing College of Medicine First Hospital

TITLE: "Severe Hepatic Functional Impairment Caused by Rifampin: Report of Two Cases"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 87-88

ABSTRACT: In recent years, clinical applications of rifampicin and its semi-synthesized derivative rifampin have been growing because for the treatment of pulmonary tuberculosis, it is generally believed to be a well tolerated and safe antibiotics of low toxicity. Two cases of severe damage to liver function caused by rifampin had occurred in the department, however. One recovered following an emergency rescue procedure; the other died. Brief histories of the two cases are reported and discussed.

AUTHOR: None

ORG: Compression Syndrome Basic Research Group, Liaoning College of Chinese Traditional Medicine

TITLE: Experimental Research on the Chinese Traditional Technique of 'Purging to Relieve Intestinal Stasis in Rabbits of Toxic Renal Diseases'

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 89-92

ABSTRACT: Based upon the satisfactory clinical applications of the Chinese traditional technique of 'purging to relieve intestinal stasis' in the treatment of compression syndrome reported in CHUNG-HUA I-HSUEH TSA-CHIH No 1, 1978, pp 57-58, an experimental study on this technique was carried out in rabbits of toxic renal diseases, induced by intravenous drip of Safranin O. The nineteen rabbits were divided into the four groups of the control and the three treatment techniques with Chinese traditional blood-activating and congestion relieving technique, the Chinese traditional purging to relieve intestinal stasis technique, and with [the Western drug] testosterone propionas. Results of the experiment are reported.

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TITLE: "Autograft Vessel Shunt Between Superior Mesenteric Vein and Inferior Vena Cava"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 93-95

ABSTRACT: All 14 cases reported in the paper were admitted to the hospital for gastric hemorrhage from venous rupture due to portal hypertension as a manifestation of late stage schistosomiasis, in May 1972 - May 1976. Autograft vessel shunt between superior mesenteric vein and inferior vena cava was performed for all. Since 1963, short term satisfactory results have been frequently reported in China using artificial material prosthesis for portacaval communication but many facts still point to the superiority of autograft. Experiences and understandings gained from the 14 cases are discussed.

AUTHOR: None

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TITLE: "Fluid Replacement in Acute Cerebral Edema in Children: Analysis of Twenty Cases"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 96-99

ABSTRACT: Practices in emergency rescue from childhood acute brain edema caused the authors to realize that limiting fluid intake is not always desirable in treating these cases. This paper compares the 20 cases treated in recent years with the 85 cases reported in the past [1976,] to demonstrate the benefits of fluid replacement in the management of acute cerebral edema in children. Some viewpoints and techniques are proposed with respect to the method of body fluid therapy, the prevention of heart failure, and problems of pulmonary edema, shock, and electrolytic confusion.

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TITLE: "Therapeutic Effect and Mechanism of Vitamin K Preparations in Treating Biliary Colic: Preliminary Investigation"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 100-103

ABSTRACT: Gall stone and bile duct ascaridosis are the common cause of biliary colic. In recent years, the authors obtained good results from treating some such cases with vitamin K preparations. Forty cases are reported here: six caused by ascaridosis and the remaining lithiasis. For the purpose of studying the therapeutic mechanism of these preparations, several experiments were conducted with guinea pigs, dogs, rabbits, mice, and pigs. It appears that K<sub>1</sub> or K<sub>3</sub> has a mild constricting action on bile duct smooth muscle of dogs and gall bladder of guinea pigs in vitro up to a certain density, beyond which either acts to suppress contraction as well as the contraction effect of histamine. Fast intravenous injection of K<sub>1</sub> was observed to cause rapid drop of blood pressure or death in the group of experimental dogs.

AUTHOR: LO Ping-hsiang [5012 4426 4161]

ORG: Ophthalmology Department, Canton Municipal First People's Hospital

TITLE: "Fixation of Corneal Lamellar Transplants Without Sutures"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 104-105

ABSTRACT: For many years, following removal of pannus, a free conjunctival graft is used to cover the sclera without sutures to obtain satisfactory healing. In case of corneal lamellar transplant, the direct or indirect sutures had generally been used for fixation, however, until May 1975 when the technique of fixation without sutures was also adopted. After transplant, the graft should be lightly pressed for about 20 minutes before pushing it lightly to test the adhesion. Eye ointment should not be applied. After applying a few drops of penicillin or streptomycin, both eyes should be bandaged for 2-3 days, with the operated eye bandaged a few days longer. Histories of four cases are included to illustrate the successful result of this technique.



AUTHOR: None

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TITLE: "Local Application of Clotrimazol Cream in Epidermophytosis: Report  
of 824 Cases"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese  
No 2, 15 Feb 78 pp 106-108

ABSTRACT: Clotrimazol cream is a broadspectrum antimycotic drug. It is a product of chemical synthesis, completed in 1971 in China. Vitro and vivo experiments had proved it to be effective for deep fungal diseases as well as surface fungal infections. From April to September 1974, the department used it to treat epidermophytosis of the body, scalp, hands, feet, etc. in a total of 824 cases. A relatively good cure rate of 64.2 percent was obtained. The drug seldom causes allergic or irritation reactions. In this group of 824 cases, contact dermatitis did occur to nine. It is perhaps related to the cream base of the drug, however.

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TITLE: "Motor Disturbance of the Glottis and Its Management"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese  
No 2, 15 Feb 78 pp 109-110

ABSTRACT: In the past, motor disturbance of the glottis had been clinically ambiguously called laryngoplegia, intralaryngeal myoparesis, or paralysis of nervus laryngeus recurrens. In the process of treating some patients of this condition of unknown origin in recent years, the authors gained new understandings. Some simple diagnostic techniques to distinguish cricoarytenoid ankylosis from the aforementioned conditions of laryngeal paralysis are introduced, and these techniques for testing cricoid mobility may also serve to cure or improve the ankylosed condition.

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TITLE: "Features of Calcified Silicosis"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 111-113

ABSTRACT: Pulmonary calcification is often observed in pulmonary tuberculosis, rheumatoid pneumonia, etc. It is also possible in silicosis, although relatively rare. This type may be called calcified silicosis, but it is often mistaken as the effect of other diseases. The x-ray signs of 13 cases of calcified silicosis are summarized in the paper, with histories of three typical cases. The mechanism of calcification of silicon nodules, its effect on prognosis, and its clinical symptoms are discussed.

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TITLE: "Book Review: The Chest, Volume I of Roentgenographic Diagnostics"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 p 118

ABSTRACT: On this eve of the National Science Conference, the first volume, THE CHEST, of ROENTGENOGRAPHIC DIAGNOSTICS, compiled by the radiologists of Shanghai First College of Medicine, and published by Shanghai People's Publications has been made available. It is divided into the two sections of The Respiratory System and The Circulatory System. Roentgenographic diagnoses of diseases of the two systems are systematically introduced, including

[continuation of CHUNG-HUA I-HSUEH TSA-CHIH No 2, 1978 p 118]

x-ray examinations, normal x-ray signs, congenital deformities, pathological foundations of various diseases, their clinical expressions, their x-ray signs, and their specific diagnostic contents, etc. Aspects of the volume, regarded to be superior by the authors are mentioned. The contents of the volume do not completely reflect up-to-date roentgenographic diagnostic techniques, however. Some of these recent information, which the volume failed to include, are cited. The volume also failed to list its source materials, which may benefit the readers who may wish to study a specific subject in further detail. The authors wish that these shortcomings will be corrected in future editions of the volume.

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ORG: All of Hua-shan Hospital, Shanghai First College of Medicine

TITLE: "Barium and "Ta-ch'eng-ch'i" Decoction in Diagnosis and Treatment of Small Bowel Obstruction"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 2, 15 Feb 78 pp 120-121

ABSTRACT: Ta-ch'eng-ch'i decoctum is a Chinese traditional preparation for treating accumulation of undigested food, abdominal distention, and constipation. In January 1975, the authors created a technique of adding barium meal to this decoctum for the diagnosis as well as treatment of small bowel obstruction. By July 1977, good effects have been obtained for 17 cases of mechanical obstruction and 5 cases of reflex intestinal distention. The mixture should enter the colon in 6-24 hours and simple obstruction and related conditions will thus be relieved. If it does not enter the colon within 24 hours, and if certain other x-ray signs are present, non-surgical treatment should be discontinued. Ingredients of the decoctum and the method of applying it are described.

AUTHOR: CHENG Te-chang [6774 1795 4545]

ORG: Department of Radiology, Yen-pei District People's Hospital, Shansi

TITLE: "Pneumopericholecystography"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese  
No 2, 15 Feb 78 pp 121-122

ABSTRACT: Cholecystography with drugs often does not provide a good picture, and this is a difficult problem in the diagnosis of chronic gall bladder diseases. The author and colleagues created pneumopericholecystography and by now 60 cases have been examined by this technique. The results have been relatively satisfactory. The examination procedure of the new technique, x-ray analysis of gall bladder diseases, and x-ray signs relating to various forms of chronic cholecystitis are described. Conditions suitable and not suitable for this new technique of examination are also discussed.

AUTHOR: T'UNG Wen [4547 2429]

ORG: None

TITLE: "A National Conference of All Factions on the Battlefront of Hygiene for Women and Children"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese  
No 2, 15 Feb 78 p 128

ABSTRACT: Most recently, the Ministry of Public Health called a National Women and Children Hygiene Work Experience Exchange Conference in Ju-kao County of Kiangsu Province. A total of 190 delegates representing the public health administrations of 29 provinces, municipalities, and autonomous regions, the women and children health workers of the various nationalities, and specialists of gynecology, obstetrics, and pediatrics attended the meetings. The delegates also visited the more than twenty advanced communes of Ju-kao County and learned the progresses made in the county with regard to various aspects of health protection work of women and children. Many specialists were invited by the conference to deliver reports in fields of gynecology, obstetrics, genetics, pediatrics, and nutrition. Delegates of Korean Nationality Autonomous Chou of Kirin Province proposed a program of friendly competition among districts and counties and won the support of the delegates of Nan-t'ung District and Ju-kao County of Kiangsu Province and those of Peking.

AUTHOR: None

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TITLE: "The Action of Central Nervous System Catecholamine in Acupuncture  
Anesthesia"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in  
Chinese No 3, 15 Mar 78 pp 129-134

ABSTRACT: It was previously demonstrated that the 5-hydroxytryptophane in the central nervous system is a major factor in effecting acupuncture analgesia. On this occasion, the activity of central nervous system catecholamine was intensified or diminished by neurophysiological methods, and it was found that central nervous system catecholamine has an opposite effect to that of 5-hydroxytryptophane (5-HT) in that it antagonizes acupuncture analgesia. Rabbits and rats were used as the experimental animals and the drug was injected into the cerebral ventricle and intracerebrally. Acupuncture points corresponding to the "tsu-san-li" and "san-yin-chiao" in humans were used. Detailed discussions of the results of injection of other central nervous system agents are also presented.

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TITLE: "The Effects of Electro-Acupuncture Stimulation on Activity of Caudate  
Nucleus Neurons"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in  
Chinese No 3, 15 Mar 78 pp 135-138

ABSTRACT: Fifty-seven rabbits of 2.5-3 kg in body weight were used. They were immobilized with skeletal muscle paralyzing agents such as curare and were maintained under artificial respiration. Glass tube microelectrodes were inserted into the caudate nucleus. The ranges of observation were A<sub>2-6</sub>, LR<sub>3-4</sub> and H<sub>3-6</sub>. Various substances were injected into the caudate nucleus. Repeated electrical stimulation of 0.5 ms and at a frequency of 0.7-2 times/second was applied at sites corresponding to the "ho-ku" and "nei-kuan" points in humans. Recordings were made of 150 units in the caudate nucleus. When not subjected to external stimulation, most caudate nucleus neurons were at rest. Of 110 units studied, the majority responded to electro-acupuncture, 35 being

[continuation of CHUNG-HUA I-HSUEH TSA-CHIH No 3, 1978 pp 135-138]

stimulated and 43 being inhibited. The majority of 50 units studied were sensitive to acetylcholine, with most of the units being stimulated by it. Of 77 units observed following injection of 5-hydroxytryptophane, 28 were sensitive to the drug. All of these units were inhibited by 5-hydroxytryptophane but were primarily stimulated by electro-acupuncture. The results of these experiments were felt to indicate that impulses induced at acupuncture sites by electro-acupuncture reach the caudate nucleus and bring about changes in the activity of neurons sensitive to acetylcholine, 5-hydroxytryptophane and dopamine.

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TITLE: "Preliminary Observations on the Effects of Electro-Acupuncture on Spontaneous Activity of Caudate Nucleus Head Neurons in Rabbits"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 3, 15 Mar 78 pp 139-142

ABSTRACT: Preliminary observations were made on unanesthetized rabbits using chronic microelectrodes. For the purpose of the experiments, a special micro-electrode propelling device was prepared. The detailed structure of the device is shown in a figure. Twenty rabbits of both sexes of 2-3 kg in body weight were used. The device was placed on the skull in a position cor-

[continuation of CHUNG-HUA I-HSUEH TSA-CHIH No 3, 1978 pp 139-142]

responding to that of the head of the caudate nucleus in the ranges of A<sub>2-4</sub> and L<sub>2-5</sub> according to Sawyer's chart. Electrical stimulation was applied to the ho-ku point with a G 68.5 type acupuncture anesthesia apparatus at a frequency of 120-180 times/minute. Observations were begun 2 days after surgery. Studies were made of the effects of spontaneous activity and on the effects of electro-acupuncture on spontaneous activity of caudate nucleus head neurons. It was found that, under the effects of electro-acupuncture, the neurons of the caudate nucleus were either activated or inhibited and that these effects persisted after the stimulation had been stopped. It was also found that the response to electro-acupuncture developed gradually and that the effects after stimulation was stopped persisted for a comparatively long period.

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ORG: All of Department of Surgery, Huashan Hospital, Shanghai First Medical College

TITLE: "The Application of Free Skin Flap Transplants in Limb Injury"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 3, 15 Mar 78 pp 143-146

ABSTRACT: The free skin flap transplant method was developed in 1973 as the result of animals experiments and anatomical studies on cadavers. The first success in an actual case was achieved in a case of cancer. Following that, the technique was used in 50 cases of limb injury, with success in 49 cases. Cases were selected in which there was great loss of skin, joints were exposed in the wound or deep tissues required repair, in which strips of skin or adjacent skin flaps could not be transplanted to repair the wound and in which there were known blood vessels in transplant region with which connections could be made. Patients over 60 years of age were excluded. The following conditions contributed to success of transplant. (1) The presence of normal arteries and

[continuation of CHUNG-HUA I-HSUEH TSA-CHIH No 3, 1978 pp 143-146]

veins of satisfactory length and caliber within the wound. (2) The presence of corresponding blood vessels in the region of transplant. (3) Careful selection, placing and joining of blood vessels in the skin flap and the region of transplant. (4) Prompt treatment of problems arising after surgery and particularly of impaired blood circulation.

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PU Li 3184 4539)

ORG: Department of Surgery, 3417 Hospital

TITLE: "A Case Report of Free Muscle Flap Transplant"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in  
Chinese No 3, 15 Mar 78 pp 147-148

ABSTRACT: The patient was a 38-year old male worker who sustained a fracture of the left radius due to an external wound in December 1971. Because of improper treatment, necrosis of the skin developed and tendons were exposed. First examination was in October 1973. He was treated surgically. On examination again in April 1976, it was decided to perform free muscle flap transplant because of weakness of the extensor muscles. A three-step operation was performed on 26 April. An illustration of the procedure and a detailed description of the method are presented. An exploratory examination under local anesthesia on 21 October indicated that the appearance of the muscle was normal and it was adhered to the surrounding tissue. On electro-



[continuation of CHUNG-HUA I-HSUEH TSA-CHIH No 3, 1978 pp 147-148.]

myograms 15 months after surgery, normal action potentials were found in the proximal section. There were few polyphase waves. In the medial and distal sections, there were large numbers of polyphase waves. Potentials were of 500-700 millivolts, 10-20 phases and with a period of 20-25 milliseconds. The examinations indicated that a nerve supply was present in the proximal, medial and distal sections of the transplanted muscle flap. In frequent follow-up examinations for over a year following surgery, the patient was found to be capable of slight flexion. The case is under continuing observation.

AUTHOR: LAO Yuan-hsiu [0525 6678 3811]

ORG: Department of Ophthalmology, Shou-tu Hospital, Chinese Academy of Medical Sciences

TITLE: "Loss of Vision Caused by "Brain Tumor Stroke" in the Sella Turcica Region - Diagnosis Aided by Examination of the Visual Field"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 3, 15 Mar 78 pp 149-154

ABSTRACT: Four case presentations of "brain tumor stroke" are discussed. The name refers to a condition arising among persons affected with intracranial tumors who may go for long periods without symptoms but who suddenly experience symptoms resembling those of stroke. The four cases reported were ones in which loss of visual capacity was the principal symptom. Three of the cases were tumors of the hypophysis and one was a case of metastized pineal body tumor. The principal symptoms of the condition could be divided into 4 major groups: (1) Such "stroke" symptoms as severe headache, nausea and vomiting and neck rigidity. (2) Loss of visual capacity and visual field. (3) Paralysis of the ocular muscles. (4) Symptoms attributable to the tumor itself. Causes, treatment and prognosis of the condition were also discussed.

AUTHOR: YANG Ping-yen [2799 4426 3508]

ORG: Department of Pathology, Shanghai International Peace Women's and Children's Hygiene Hospital, China Welfare Institute

TITLE: "Placental Pathology After Injection of Radix Trichosanthis Preparation to Induce Parturition During the Second Trimester of Pregnancy"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 3, 15 Mar 1978 pp 160-162

ABSTRACT: The Chinese drug Radix trichosanthis has been very effective in inducing parturition. However, it also causes necrosis of placental trophoblast cells. For this reason, studies have been carried out on its effectiveness in treating extopic pregnancy and hyperplastic diseases of trophoblast cells. On this occasion, experiments with Radix trichosanthis preparations were carried out on 96 placental specimens. As a result, it was found that the principal pathological changes when the preparation was used to induce parturition during the second trimester of pregnancy were widespread degeneration and coagulation necrosis of trophoblast cells. It was concluded that the necrosis of the trophoblast cells was due to the direct action of the Radix trichosanthis preparation.

AUTHOR: None

ORG: Leukemia Teaching and Research Group, Chinese People's Liberation Army 187th Hospital

TITLE: "Analysis of the Therapeutic Effectiveness of Esters of Cephalotaxine in Treating 72 Cases of Leukemia"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 3, 15 Mar 1978 pp 163-166

ABSTRACT: An analysis of the effects of esters of cephalotaxine was made in 72 cases of leukemia, including 47 cases of acute granulocytic leukemia and 15 cases of chronic granulocytic leukemia. There were 45 males and 27 females ranging from 1 year 9 months to 60 years in age. The drugs were given in dosages of 0.15-0.3 mg/kg/day dissolved in 200-500 ml of 5% or 10% glucose solution. Each course of treatment lasted for 5-10 days, with treatment being continued until the leukocyte count fell to about 2000. One course was given in 7 cases, 2 courses in 19 cases and 3 or more courses in 46 cases. Evaluations of therapeutic effectiveness were based on the standards proposed by the Suchow Leukemia Forum in 1973. As the result of treatment, complete remissions were achieved in 24 cases partial remissions occurred in 38 cases. Side effects of the drug were mild and subsided in a few days after treatment was stopped.

AUTHOR: None

ORG: Antibiotics Research Group, First Teaching Hospital, Peking Medical College

TITLE: "Research on the Antibacterial Activity of China-Produced BL-P-1597"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 3, 15 Mar 78 pp 155-159

ABSTRACT: BL-P-1597 is a new broad spectrum semisynthetic penicillin first reported by Bodey et al. (1971). The supply used was produced by the Taiyuan Pharmaceutical Plant. A study of its antibacterial effects was made in comparison with those of carbenicillin and ampicillin. 307 strains of pathogenic bacteria isolated from patients in the Peking region from 1975 up to March 1977 were used. These included 50 strains of Pseudomonas aeruginosa. A study of minimum inhibitory concentrations indicated that BL-P-1597 was superior to carbenicillin in its in vitro antibacterial activity against both gram-positive and gram-negative bacteria including Pseudomonas aeruginosa. Its minimum inhibitory concentrations and minimum bactericidal concentrations against 6 types of gram-negative bacilli were close to those of carbenicillin. All strains of E. coli and Proteus were killed in 8-12 hours. It also

[continuation of CHUNG-HUA I-HSUEH TSA-CHIH No 3, 1978 pp 149-154]

exhibited protective effects in mice against experimental infection by Pseudomonas aeruginosa, Escherichia coli, Shigella dysenteriae, Proteus, Diplococcus pneumoniae and Staphylococcus aureus.

AUTHOR: None

ORG: Health Statistics Teaching and Research Section, Department of Public Health, Chung Shan Hospital; Health Statistics Teaching and Research Section, Department of Public Health, Shanghai First Hospital; Hung K'ou District Anti-Epidemic Station, Shanghai

TITLE: "An Epidemiological Investigation of Nasopharyngeal Cancer Among Immigrants - Analysis of Circumstances of Death"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese No 3, 15 Mar 1978 pp 167-171

ABSTRACT: Nasopharyngeal cancer is frequently seen in China and Southeast Asia. The highest death rates in China occur in Kwangtung Province. In recent years, high incidences and death rates have been reported among Chinese immigrants abroad. In order to obtain a better understanding of the hereditary and environmental factors involved in nasopharyngeal cancer, a study was made of over 20,000 residents coming from other provinces who had lived in Canton for over 5 years and of over 20,000 natives of Kwangtung Province living in Shanghai. Of 442 deaths among immigrants to Kwangtung in the 1970-1975 period, 102 deaths were due to malignant cancers. The average mortality rate for malignant cancers was 92.8/100,000. Of the malignant cancers, naso-

[continuation of CHUNG-HUA I-HSUEH TSA-CHIH No 3, 1978 pp 167-171]

pharyngeal cancer was most frequent, accounting for 32 cases. The mortality rate was 29.1/100,000. The survey of the Hung-k'ou District of Shanghai indicated that 13, or 4.76%, of 273 deaths among Kwangtung natives were due to nasopharyngeal cancer, whereas 109, or 1.99%, of 5,479 deaths among persons not of Kwangtung origin were due to the condition. Findings indicated that immigrants from other provinces to Canton exhibited a lower mortality rate due to nasopharyngeal cancer than natives of Canton and that the incidence of nasopharyngeal cancer among immigrants to Shanghai from Kwangtung was higher than among natives of Shanghai. It is concluded that genetic factors cannot be excluded as causes of the condition.

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TITLE: "A Report on 76 Cases of Bacterial Liver Abscess in Children"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in  
Chinese No 3 15 Mar 1978 pp 172-173

ABSTRACT: Ninety cases of bacterial liver abscess were diagnosed in the Department of Pediatrics of Szechwan Medical College Hospital in the 10 year period 1966-1975. There were 15 cases 1-3 years of age, 24 cases 4-6 years of age and 37 cases 7-12 years of age. The male-female ratio was 3 : 2. The most frequent mode of infection was via the hepatic artery in cases of septicemia (45 cases). Next most frequent was infection by tapeworms in the bile duct (23 cases). Protracted fever of 2-8 weeks in duration was found in 63 cases. There was pain in the liver region in 21 cases, hepatomegaly in 75 cases and shooting pain in 53 cases. Leukocyte counts were increased in the majority of cases. There were varying degrees of anemia in 51 cases. Abnormalities of liver function were found in only 6 of 37 cases in which tests were made. In X-ray examinations of 60 cases, enlargement of the

[continuation of CHUNG-HUA I-HSUEH TSA-CHIH No 3, 1978 pp 172-173]

liver shadow was seen in 19 cases and signs of reactive pleurisy were seen in 16 cases. Abnormalities were also found on ultrasonic examination of the liver. Treatment consisted of administration of antibiotics, transfusion of fluids and blood transfusions. As the result, 50 cases were cured. There were 4 deaths. Treatment was not effective in 22 cases.

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TITLE: "Synovial Membrane Sarcoma (Analysis of 14 Cases)"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in  
Chinese No 3, 15 Mar 1978 pp 174-176

ABSTRACT: Analysis is made of 14 cases occurring over the past 15 years for which there were relatively complete case histories and X-ray records. The patients ranged in age from 8-64 years. Nine of the patients were between 20 and 40 years of age. The male-female ratio was 10 : 4. Six were farmers, 4 were students, 1 was a worker and 1 was a cadre. There were no records for the other 2 as to occupation. The sarcoma occurred in the knee region in 6 cases, in the dorsal region of the feet in 4 cases, the ankle region in 2 cases, the shoulder region in 1 case and the cervical vertebrae region in 1 case. The period of illness in 8 cases was 1-3 years. The principal symptoms were pain, swelling and impaired function. Detailed discussion of X-ray findings and factors in diagnosis and differential diagnosis are presented.

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ORG: CHAO, WANG, P'U. SU of Department of Internal Medicine; WEI, KUO of  
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TITLE: "Understandings Gained from Poor Visualization and Non-Visualization  
in Cholecystography with Oral Iopanoic Acid"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in  
Chinese No 3, 15 Mar 1978 pp 177-179

ABSTRACT: In the period 1971-1975, 177 cases of simple chronic cholecystitis and cholelithiasis were treated in the Second Hospital of Canton Medical College. Cholecystography by the oral method was conducted before surgery in 52 of these cases. There were 12 cases of simple chronic cholecystitis and 40 cases of chronic cholecystitis complicated with cholelithiasis. There were 15 males and 37 females ranging from 21-60 years of age. The majority, or 38 cases

[continuation of CHUNG-HUA I-HSUEH TSA-CHIH No 3, 1978 pp 177-179]

(8 males; 30 females), were from 31 to 50 years in age. There was pain in 45 cases, fever in 21 cases, nausea and vomiting in 40 cases, jaundice in 9 cases, tenderness of the gallbladder in 40 cases and palpability of the upper abdomen in 18 cases. There were increases in total leukocyte and neutrophil counts in 9 cases and increases in monocytes in 10 cases. Liver function was normal in 32 cases. GPT was elevated in 7 cases and GPT and the icteric index were elevated in 6 cases. Before surgery, cholecystography was performed once in 40 cases, twice in 6 cases, three and four times in 2 cases each, 7 times in 1 cases and several times in case. As the result, calculi were not observed in 35 cases and there was poor visualization in 14 cases. Calculi were clearly observed in only 3 cases. Factors affecting these results were discussed.

AUTHOR: CHIN Hui-ming [6855 1920 6900]

ORG: Pathological Physiology Teaching and Research Section, Shanghai First Hospital

TITLE: "Clinical Use of Radix Salviae Miltiorrhizae Preparation and Research on its Mechanism in Promoting Circulation and Relieving Stasis"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese, No 3, 15 Mar 1978 pp 180-183

ABSTRACT: This is a review article on clinical applications and research on Salvia preparations. Various types of oral and injection preparations are discussed. Side effects following use of oral preparations are few, and when they occur include abdominal discomfort, diarrhea, constipation or nausea. Dizziness has been observed following intravenous injection. The oral preparations have been found to alleviate the symptoms of coronary heart disease and pain in particular. Good effects have also been obtained using intravenous injections. Its mechanism of action is believed to involve improvement of circulation, effects on hemodynamics, regulating effects on tissue recovery and regeneration, inhibition of blood coagulation, stimulation of fibrinolysis and its actions on metabolism, immunity and the nervous system.

AUTHOR: None

ORG: Examination Department, Hunan Medical College First Hospital

TITLE: "Comparison of the Staining Method and Direct Microscopic Observation for Identification of Schistosoma Ova in Rectal Tissue"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese, No 3 15 Mar 1978 p 154

ABSTRACT: The two methods were compared using rectal tissue sections from 107 patients with positive indications of Schistosoma ova. The tissue sections were first subjected to direct microscopic examination and morphological differentiation of the ova made. The sections were then stained, after which differentiation of ova was again performed. It was concluded that the staining method was more reliable in identifying different stages of ova development. However, the general use of the staining method was felt to be limited at the present stage because of the necessity of using constant temperature equipment and the complexity of the procedure.

AUTHOR: None

ORG: This Journal

TITLE: "All-China Exchange-of-Experience Meeting on Birth Control Techniques Held at Shanghai"

SOURCE: Peking CHUNG-HUA I-HSUEH TSA-CHIH [CHINESE MEDICAL JOURNAL] in Chinese, No 3, 15 Mar 1978 p 192

ABSTRACT: The meeting was held at Shanghai from 29 December 1977 to 10 January 1978 under the auspices of the Ministry of Public Health and the Office of the Birth Control Guidance Group of the State Council. 243 papers were presented from all regions of China. Discussions were held on the effectiveness of various methods of birth control. The three principal methods in use are intra-uterine devices, ligation of the fallopian tubes and vasectomy, the last of which methods accounts for 10% of the total. The advantages and disadvantages of abortion were also discussed.

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CSO: 4009



LASER

AUTHOR: None

ORG: None

TITLE: "Conference on Laser Technology Held in Hunan Province"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 p 2

ABSTRACT: During the period from November 4 to November 9 of 1977, a conference on laser technology was sponsored by the Hunan Province Department of Science and Technology in Ch'ang-sha City. The conference was attended by over 100 delegates from more than 70 organizations within the province. The main purpose of the conference was to exchange experiences and to review the achievements since the initiation of laser programs in 1970. Future plans for research and development for the period 1978 to 1985 were also discussed. The plans will place special emphasis on the development of medium and low power lasers, the quality control of materials, components and equipment, and the application of lasers in agriculture, industry, medicine, and scientific experiments.

AUTHOR: None

ORG: Chinese Academy of Sciences, Shanghai Bureau of Optical Equipment

TITLE: "Measurement of Thermal Lens Parameters of a Neodymium Glass Laser and Compensation Techniques for Laser Resonant Cavity"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 3-8

ABSTRACT: This article presents a theoretical analysis of the thermal lens effect of a high pulse-repetition-rate neodymium glass laser. The theoretical results are shown to be in good agreement with experimental measurements of thermal lens parameters using 1.06-micron parallel laser beams. It is shown that the thermal focal length of the reference lens is sensitive to variations in the optical pumping power while there is no apparent change in the main plane. Experimental results are also presented to illustrate the feasibility of using optical methods to partially compensate for the thermal lens effect and achieve improved directivity in the laser output.

AUTHOR: None

ORG: Peking University, Department of Physics and Chinese Academy of Sciences, Institute of Environmental Chemistry

TITLE: "Problems in the Construction of a Carbon Dioxide Frequency Selection Laser"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 9-11

ABSTRACT: A carbon dioxide frequency selection laser has been developed for detecting and measuring air pollution. In this article, several problems in connection with frequency selection lasers are discussed: 1) the proper design and placement of light screen to achieve the desired order of diffraction; 2) comparison of the properties of sodium chloride and gallium arsenide as candidate materials for the Brewster window; 3) the design of laser output configuration; 4) the stabilization and control of cavity length to achieve stable frequency and amplitude; 5) the determination of wavelength by using a gas whose absorption spectrum of CO<sub>2</sub> laser is known; and 6) protection of the light screen and Brewster window against dust and damages.

AUTHOR: None

ORG: None

TITLE: "Successful Testing of Laser Fibre Communication System"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 p 11

ABSTRACT: Under the leadership of the Central Committee of the Communist Party, several institutes of the Chinese Academy of Sciences have joined forces in the research and development of laser fibre communication. In October 1977, three communication systems were successfully tested. The test results indicated that all components and system performance met national standards. In particular, a special achievement of this effort was a technological breakthrough in the reduction of optical fibre losses.

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TITLE: "The Problem of Drift in Laser Alidade"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 12-15

ABSTRACT: In this article, a matrix approach is used to derive the transformation which describes the effect of the telescope on the directional drift of the aligning laser beam for a laser alidade. It is pointed out that the primary causes for the drift are due to thermal distortion of the laser tube and the telescope. The methods of pre-heating and insulation are suggested as effective means to reduce drift by minimizing thermal distortion and heat transfer between the laser tube and the telescope. Experimental results obtained from the improved laser alidade indicate that an accuracy of  $\pm 0.1''$  can be achieved under controlled conditions.

AUTHOR: None

ORG: Chinese Academy of Sciences, Shanghai Bureau of Optical Equipment

TITLE: "Holographic Interference Study of the Discharge Process From a Pulse Xenon Lamp"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 16-19

ABSTRACT: The theoretical and experimental methods of studying a xenon lamp plasma using a pulse laser holographic interferometer are introduced. Holographic interference diagrams of the plasma discharge from two pulse xenon lamps at  $\phi 14 \times 150$  mm and  $\phi 27 \times 100$  mm are presented and analyzed. Both xenon lamps had an input energy of 500 joules and a discharge time of less than 1 msec. It is shown from the experimental results that holographic interferometer has sufficient sensitivity to perform accurate measurements of the electron density of pulse xenon lamps.

AUTHOR: None

ORG: Nanking Engineering College, No 6 Department

TITLE: "Low Power Ionized Argon Laser"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78, pp 20-21 and 55

ABSTRACT: Ionized argon laser is a high-intensity gas laser operating at low voltage and high current conditions. In this article, the design considerations of an argon laser with a glass tube construction and a pulsed power source are discussed. The main features of the laser are summarized as follows: length--600 mm; outside diameter--65 mm; total weight--1.6 kg; cathode filament voltage--7.8 volts; cathode filament current--30 amps; 50 cycle pulsed operation; voltage drop--250 volts; nominal operating current--4 amps; peak operating current--6 amps; beam scattering angle--1 milli-radian; output power--70 milli-watts at 4 amps; peak power--1 watt; and operating life--850 hours.

AUTHOR: None

ORG: Shanghai Chiao-t'ung University

TITLE: "Large Screen Laser Color Television"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 22-25

ABSTRACT: The large screen laser color television introduced in this article was developed jointly by the Shanghai No 1 Light Bulb Factory and the Shanghai Silicate Institute. The main components of the television include: 1) a continuous argon ion laser and a continuous krypton ion laser which provide the basic spectrum for color display; 2) the modulator, which modulates the beam intensity according to variations in the control signals; 3) the deflector, which projects the modulated signals onto the screen and displays it in the form of a comprehensive image; 4) the video signal processing unit and the video amplifier; and 5) the field and row drive motors and the row servo-mechanism. The total power consumption of the system is 35 kilo-watts; it has a resolution of 400-450 lines in the horizontal direction and 300-350 line in the vertical direction.

AUTHOR: None

ORG: Shangyang Institute of Instrumentation

TITLE: "Design Considerations for a Length-Measuring Laser Interferometer"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 26-34

ABSTRACT: This article discusses several considerations concerning the design of a laser spherical interferometer for length measurement. Specifically, the following problems are addressed: 1) the design of a composite beam-splitting prism system which consists of a right angled prism, a trapezoidal prism, a rhombic prism, and two focusing lens; 2) the design of a photo-electric conversion and amplification circuit; 3) design considerations for protecting the instrument against mechanical vibrations; and 4) incorporation of interference rejection measures in the input channel, the power supplies, the ground wires, and the a.c. lead wires. Experimental results are presented to show that the instrument has a random error of less than  $\pm 0.1$  micron and an r.m.s. bias error ranging from 0.114 to 0.323 microns.

AUTHORS: O Cheng [6759 1767]

WANG Shu-lan [3769 3219 5695]

NIEH Yu-hsiu [5119 3768 4423]

ORG: Kirin Medical College

TITLE: "Study of the Division Process of Cancer Cells Using a Microscopic Beam of a Ruby Laser"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 34-38

ABSTRACT: The Kirin Medical College has developed a microscopic ruby laser to study the internal structure of cells and the mechanism of mitosis division of cancer cells. The wavelength of the ruby laser is  $6943 \text{ \AA}$  and the energy density is approximately  $20 \text{ milli-joules/mm}^2$ . The diameter of the laser beam is 3 microns. Experiments have been conducted where the laser is directed at the nucleus, the cytoplasm, and the chromosomes of the cells during the early stage, the intermediate stage, and the final stage of the mitosis process. The results indicate that laser treatment of the nucleus during the intermediate stage causes the mitosis process to be suppressed for an extended period.

AUTHOR: None

ORG: Shanghai Chinese Character Information Processing System

TITLE: "Laser Scanning Printer"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 38-39 and back cover

ABSTRACT: A high-speed printer using laser scanning and recording techniques has been developed as the output unit for a modern computer. The printer has three basic components: the laser scanner, the electro-static print head, and the symbol generator. In addition to symbols, the printer can also generate output in the form of curves, tables, or figures. It can also be used as a Chinese character printer by attaching to it a character symbol generator. A photograph of the printer is shown on the back cover of this issue.

AUTHOR: WU Po-ch'ang [0702 2672 2490]

ORG: Chinese Academy of Sciences, Fukien Institute of Material Structure

TITLE: "The Use of Heat Treatment Methods to Improve the Optical Uniformity of Lithium Niobium Crystals"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 40-42

ABSTRACT: A heat treatment method is introduced to improve the optical uniformity (i.e., the spatial refraction gradient) of lithium niobium crystals. Specifically, the heat treatment conditions and the optical system for measuring the optical qualities of the crystals are described. The results of the heat treatment and the major causes of thermal strains in the crystals during the machining process and the production process are discussed. It is pointed out that the heat treatment method is particularly effective in improving the optical qualities which have been damaged by the machining process.

AUTHOR:None

ORG: Chinese Academy of Sciences, Shanghai Bureau of Optical Equipment

TITLE: "A Power Source for Solid Laser With a Continuously Tunable Pulse Width"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 43-49 and 51

ABSTRACT: A solid laser with a continuously tunable pulse width between  $10^{-3}$  and  $10^{-5}$  seconds and an output energy of 1-2 joules has been designed to study the interaction of laser with matter and to investigate various laser applications. The key elements in the design are the development of an electro-optical switch consisting of two KD P crystals connected in series and a control device which controls the voltage wave form applied to the electro-optical switch to achieve the desired output pulse width. In this article, the operating principle and circuit diagrams of the control device are described in detail. Experimental results of the laser output using both KD P crystals and  $\text{LiNbO}_3$  crystals as the switch component are presented and discussed.

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ORG: Shan-hsi University, Department of Physics

TITLE: "The Use of Scattering Tube to Improve the Uniformity of Pumping Light Distribution"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 50-51

ABSTRACT: This article compares the pumping efficiency and the uniformity of pumping light distribution of three different focusing systems of solid lasers: the single elliptical system, the double elliptical system, and the quadruple elliptical system. Experimental results are presented to show that the uniformity of pumping light distribution of a single elliptical focusing system can be significantly improved by using a frosted glass scattering tube instead of an ordinary glass tube. It is also shown that the resulting output characteristics of the solid laser are greatly improved.

AUTHOR: None

ORG: Shangtung Teacher's College, Department of Physics  
Shangtung Electronic Tube Factory

TITLE: "The Use of Non-Parallel Lens to Adjust Planar-Concave Laser Cavity"

SOURCE: Shanghai CHI KUANG [LASER]. in Chinese No 1, Feb 78 pp 52-55

ABSTRACT: When adjusting the resonant cavity of a planar-concave gas laser using a parallel tube with tunable focus, errors are often introduced because the surfaces of the planar reflector are not parallel. This article analyzes several of the existing methods for correcting this error, and proposes a method of adjusting the laser cavity by utilizing the parallel offset angle. Experimental results are presented to show that this method is simple and accurate, and leads to improved production efficiency. It is also shown that the method is sufficiently general to adjust the cavities of different types of laser such as helium-neon laser, helium-cadmium laser, ionized argon laser, and carbon dioxide laser.

AUTHOR: SHEN K'o [3088 2688]

ORG: Ch'ang-ch'un College of Optical Equipment

TITLE: "The Physics of X-Ray Laser"

SOURCE: Shanghai CHI KUANG [LASER]. in Chinese No 1, Feb 78 pp 56-63

ABSTRACT: The problem of developing a laser which operates at the X-ray frequency range has been a topic of intense theoretical and experimental research in recent years. In this article, a theoretical analysis of the basic characteristics of an X-ray laser is presented. Several design concepts of a practical X-ray laser are also introduced. Three particular concepts of an inner shell design are discussed in detail: 1) the use of X-ray ionized pumping; 2) the use of ion-atom collisions as the stimulation source; and 3) the use of electron collisions as the stimulation source. (article to be continued)



AUTHOR: None

ORG: None

TITLE: "Brief Communications"

SOURCE: Shanghai CHI KUANG [LASER] in Chinese No 1, Feb 78 pp 64 and 63

ABSTRACT: This article presents summaries and brief discussions of the following topics: 1) the problem of eliminating conical shaped holes in laser drilling; 2) the operational problems of a laser scanning aperture measuring and control instrument; 3) the performance and specifications of a portable laser length measuring instrument; 4) the use of laser holography to photograph the vibration modes of compressor blades; 5) methods of improving the sensitivity of micro-optics spectral analysis using a water-cooled neodymium glass laser; 6) optimum design of a small helium-neon laser; and 7) the characteristics of a piezo-electric transformer which is used as the power source for the HNT-2 portable helium-neon laser.

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CSO: 4009

MECHANICS JOURNAL

AUTHOR: LIN T'ung-chi [2651 0681 7535]

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ORG: None

TITLE: "On the Subsonic, Transonic and Supersonic Flow in Laval Nozzles"

SOURCE: Peking LI-HSUEH HSUEH-PAO [MECHANICS JOURNAL] in Chinese No 1, Jan 78  
pp 1-18

ABSTRACT: This article first gives a general equation of the function of two-dimensional, steady, irrotational and isentropic flow of an ideal gas under the protective angle curvilinear coordinates. With corresponding coordinates of the flow curve and isopotential curve of an incompressible potential flow, it gives a simplified flow function equation and its general solution. Applying this result to the flow in nozzles, it gives the solution to subsonic, transonic and supersonic flows in nozzles, which may be chosen according to the needs of radius of throat wall curvature, ratio of contraction and maximum angle of inclination of wall. This solution is applicable to ratio of different specific heat. As a practical example, the article gives the calculation of flow characteristics of a typical nozzle, including the equal Mach number curve of lower, medium and higher subsonic nozzle flow, also the sonic curve, equal Mach number curve, influence curve, maximum characteristic curve, branch curve and isochronous curve of supersonic nozzle flow.

AUTHOR: CHANG Te-liang [1728 1795 5328]

LIU Yu-k'uei [0491 5148 7608]

CHAO Ch'eng-fu [6392 2052 4395]

ORG: Institute of Mechanics, Chinese Academy of Sciences

TITLE: "Trajectory Calculation of the Kirin Meteorite Swarm in the Atmosphere and Analysis of the Phenomenon"

SOURCE: Peking LI-HSUEH HSUEH-PAO [MECHANICS JOURNAL] in Chinese No 1, Jan 78  
pp 19-32

ABSTRACT: On March 8, 1976 at about 3 pm, a meteorite swarm, seldom seen in the past anywhere in the world, fell in the suburbs of Kirin Municipality. It is called the "Kirin Meteorite Swarm." The Chinese Academy of Sciences set up a special joint investigation team to conduct a scientific study of the case. The article takes the findings of this investigation team as the basis, further calculates the trajectory of the Kirin Meteorite Swarm in the atmosphere, and gives parameters on the initial angle and speed of the meteorite swarm on entry into the atmosphere, the position of explosion, the distance of flight, the angle of landing and speed. At the same time, the article makes a further analysis on the occurrence of this phenomenon, and presents certain data for the study of the outer space trajectory of the Kirin Meteorite Swarm.

AUTHOR: KAO Yu-ch'en [7559 3768 5256]

ORG: Institute of Ship Building

TITLE: "Influence of Boundary Conditions on the Stability of Circular Cylindrical Shells under Hydrostatic Pressure"

SOURCE: Peking LI-HSUEH HSUEH-PAO [MECHANICS JOURNAL] in Chinese No 1, Jan 78  
pp 33-46

ABSTRACT: The article uses the asymptotic method to analyze the stability of circular cylindrical shells under hydrostatic pressure under various possible boundary conditions. It not only gives the steps of finding each approximate critical load, but also finds the first approximate expression of critical load and flexural state. With four typical cases as examples, it finds the second approximate expression of critical load. In conclusion, the article shows the influence of different boundary conditions on the stability of circular cylindrical shells under hydrostatic pressure.

AUTHOR: LIU Jen-huai [0491 0086 2037]

ORG: Lanchow University

TITLE: "The Characteristic Relations of Corrugated Circular Plates"

SOURCE: Peking LI-HSUEH HSUEH-PAO [MECHANICS JOURNAL] in Chinese No 1, Jan 78  
pp 47-52

ABSTRACT: Circular corrugated plates play an important role among sensitive elastic elements of precision instruments. However, the theoretical study on such elastic elements is still very inadequate up to the present, mainly because of the complex shape of such plates with very many parameters, especially the great difficulty of finding a solution mathematically for the big deflection nonlinear differential equations. The author explains a revised method of successive substitution to find the solution. He claims that the formula on characteristic relations of corrugated circular plates, obtained in this article, is simple and practical, improves accuracy and the scope of application, and may serve as the reference for the designing of elastic elements of precision instruments.

AUTHOR: WANG Ta-san [3769 6671 0005], CHAO Hui-fu [6392 1920 1381],  
MA Chung-fang [7456 6850 5364], CHANG Ya-fu [1728 0068 1133],  
CH'I Tsung-min [7871 1350 2404], JEN Ai-feng [0117 1947 1496]

ORG: Institute of Mechanics, Chinese Academy of Sciences

TITLE: "Investigations on Combustion Chamber Processes of Rotary Combustion Engines (II)"

SOURCE: Peking LI-HSUEH HSUEH-PAO [MECHANICS JOURNAL] in Chinese No 1, Jan 78  
pp 53-63

ABSTRACT: Part I of this article appeared in the journal LI HSUEH [MECHANICS] No 4 1977, contents: (1) The Properties of Present Rotary Combustion Engines, (2) The Sweeping Flow in Rotary Combustion Engines and (3) Gas Leakage in Rotary Combustion Engines. Contents of this Part II are (4) Processes of Ignition and Combustion of Rotary Engines, (5) A Fire-Setting Trough Improves Ignition and Combustion and (6) Conclusion. This part of the article explains that the fuel economy of present rotary combustion engines is poor because ignition and combustion are affected by a gust of sweeping flow of combustible gas in the chamber. Through experiments, it is found that the processes of ignition and combustion can be improved by opening a trough on the engine body at the location of the sparking plug.

AUTHOR: YANG Huai-t'ang [2799 2849 1016]

ORG: Chekiang University

TITLE: "Photoelastic Determination of Stress Intensity Factors"

SOURCE: Peking LI-HSUEH HSUEH-PAO [MECHANICS JOURNAL] in Chinese No 1, Jan 78  
pp 64-68

ABSTRACT: This article is in the section on "experimental techniques and methods." Mechanics of fracture is the study of the intensity of structural elements with cracks. Therefore, it is necessary to study the field of stress near the tip of a crack. The author states that either for the solution of practical problems or to prove and verify a theoretical analysis, it is very urgent to find experimental methods for the determination of stress intensity factors. He claims that the application of photoelastic method, especially the three-dimensional photoelastic method of the stress freezing model, may become a popular experimental method to determine stress intensity factors. He explains the basic principle of photoelastic determination and the determination of photoelastic data, and gives the results of experiments with three-point bending crack samples.

AUTHOR: CHOU Wei-Szu [0719 4850 0934]  
KAO Ts'an-hua [7559 3605 5478]  
CH'EN Yen-chin [7115 3601 3160]

ORG: None

TITLE: "Application of the Displacement Characteristic Curve to the Analysis of Waterflood Performance"

SOURCE: Peking LI-HSUEH HSUEH-PAO [MECHANICS JOURNAL] in Chinese No 1, Jan 78  
pp 69-72

ABSTRACT: This is the first of three articles in the section of "Research Notes." It is related to the operation of oil wells. The study on the increase of water content is an important aspect of the analysis of waterflood performance in oil wells. Generally this analysis is based on the curve of relations between water content and time, or between water content and accumulated oil output. However, there are many factors which have to be taken into consideration, the actual data does not always show any regularity. The article takes two formulas respectively from Soviet and U.S. sources as reference, and explains some new findings by studying and analyzing large amounts of actual data of oilfields. From relative permeability curves of some oilfields in China and abroad, a graph is drawn to show relations between waterflood and oil output and relations between oil-water ratio and oil output. As an example, the output of a certain oil well can be stabilized by studying its displacement characteristic curve.

AUTHOR: CH'EN Chung-hsiang [7115 6945 4382]

ORG: None

TITLE: "A Suggestion for Determining Relative Permeability Curve over the Entire Saturation Range from Displacement Experiments"

SOURCE: Peking LI HSUEH HSUEH-PAO [MECHANICS JOURNAL] in Chinese No 1, Jan 78  
pp 73-76

ABSTRACT: This is the second article in the section of "Research Notes," also about oilfield operation. Various methods have been put forth to determine the relative permeability curve as a basis for calculating two-phase permeating flow, among which the method of displacement receives most attention. However, this method is limited to finding only the relative permeability curve above the front marginal saturation point. In this article, the author explains the basic principle of the displacement method, and makes a suggestion for determining relative permeability curve over the entire saturation range. He suggests first to use water to displace oil for determining a part of the relative permeability curve, and then to use oil to displace water for determining the other part of the curve. In this way, it is possible to use the displacement method for determining the complete relative permeability curve of the two-phase permeating flow.

AUTHOR: MENG Hsien-kang /1322 2009 4854/

ORG: The "July 21" Workers' University of Fushun Steel Plant

TITLE: "Correction for the Maximum Stress Criterion on the Equal Strainenergy-Density Line"

SOURCE: Peking LI-HSUEH HSUEH-PAO /MECHANICS JOURNAL/ in Chinese No 1, Jan 78  
pp 77-80

ABSTRACT: The author refers to a document published in the journal LI HSUEH /MECHANICS/ by the No 12 Office of Peking Institute of Mechanics, Chinese Academy of Sciences, No 2 1976, p 98, on complex fracture criterion, and puts forward his views on the "determination of breaking load" for correction. This is the third article in the section of "Research Notes." The author explains his basic view that the beginning of expansion of a crack is determined by two factors: one is that along the direction of cracking, the strainenergy stored in the cracking body becomes greater than or equal to the energy required to form a new cracking surface; two is that along the direction of cracking, the intensity of surrounding stress becomes greater than or equal to the tenacity of the material against breaking. The maximum stress criterion, laid down in the previous document, gives emphasis on only one of the two factors and, as a result, miscalculates the breaking load. The article carries six graphs in support of the author's views.

9039

CSO: 4009

SCIENCE PICTORIAL

AUTHOR: YANG Shih-fa [2799 1102 3127]

ORG: Shanghai Municipal Science and Technology Committee

TITLE: "Strive to Build Shanghai into a Scientific Base with Advanced World Standard"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] in Chinese No 3, Mar 78 p 1

ABSTRACT: The author gives high priority to the following in building Shanghai into a scientific base with advanced world standard: (1) integrated circuits; (2) computer technology; (3) integrated optics; (4) remote sensing technology; (5) super-conductor technology; (6) large scale precision scientific instruments; (7) catalytic agent in petrochemical industry; (8) tumor prevention; (9) superior rice species breeding; and (10) disposal of industrial waste. Pictures accompanying the article show the opening of the Shanghai Municipal Scientific Convention, two doctors who saved the life of a woman who suffered burns over 100 percent of the body, large integrated circuit made by the Shanghai Metallurgy Institute of the Chinese Academy of Sciences, a farmer who is an expert on tomato, a technician working on an electronic microscope, and a textile researcher

[continuation of K'O-HSUEH HUA-PAO No 3, Mar 78 p 1]

from the Shanghai Textile Research Institute discussing the application of air bearing in textile machinery.

AUTHOR: PIEN Yu-ling [0593 3022 7792]

ORG: .None

TITLE: "New Theory on the Birth of the Solar System"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] in Chinese No 3, Mar 78 pp 4-5 and 33

ABSTRACT: This article introduces Professor Tai Wen-sai's theory on the origin of the solar system. His theory is regarded as more plausible than others in explaining the orbiting characteristics of the planets, the mass distribution in the planets, the anomaly in the distribution of angular momentum of the solar system, the distance between the sun and the planets, the formation of the light ring around the Saturn, and the origin of Uranus. Professor Tai is teaching at Nanking University.

AUTHOR: None

ORG: None

TITLE: "Modern Technology"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] in Chinese No 3, Mar 78 pp 6-8

ABSTRACT: Compiled on the basis of Chinese and Western scientific journals, this article introduces the basic principle and applications of the following technology and their recent developments: (1) Remote sensing. It is described as a technology used on man-made satellites to gather information (electromagnetic waves) from remote objects through visible light, infrared, ultraviolet and microwaves. It can be used for mineral prospecting, weather forecast, location of fish schools, and wheat harvest estimate. (2) Laser. The use of laser spectrum for studying molecular structure, for detecting the presence of  $1/10 \times 10^{-10}$  gram of element in a substance, and for detecting a process which lasts  $1/10 \times 10^{-10/2}$  second, is introduced. (3) Robot technology. Since a highly developed robot must have "memory" and the intelligence to "think," robot technology is inseparable from computer technology. (4) Electronics.



[continuation of K'O-HSUEH HUA-PAO No 3, Mar 78 pp 6-8]

Development of pure semi-conductors and wide application of large integrated circuits are described as the main stream of electronics technology. (5) Energy. Hydrogen is regarded as an excellent source of energy because (a) it is unlimited in supply, (b) it has a low ignition point, (c) it generates more heat than natural gas, coal and oil, and (d) it caused no air pollution problem since burned hydrogen becomes water. Nuclear power and solar energy are also discussed.

AUTHOR: CHANG Shou-k'ai [1728 1108 1956]

ORG: None

TITLE: "Electric Flotation and Coagulation -- A New Method for Treatment of Polluted Water"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] 1n  
Chinese No 3, Mar 78 pp 9 and 37

ABSTRACT: This article explains the principle of purifying polluted water by electric flotation and coagulation. By placing two electrodes in a container of polluted water with anode made of aluminum and cathode made of stainless steel, water is decomposed into  $H^+$  and  $OH^-$  after the electrodes are charged. At the cathode  $2H^+ + 2e \rightarrow H_2 \uparrow$ . At the anode  $4OH^- - 4e \rightarrow 2H_2O + 2[O]$ . Hydrogen and nascent oxygen bubbles ascend from the electrodes, bringing the suspended particles in the water to the surface to form a floating film. Under the action of electric current,  $Al - 3e \rightarrow Al^{3+}$ . The chemical reaction between the positively charged aluminum ion and the negatively charged  $OH$  ion is as follows:  $Al^{3+} + 3OH^- \rightarrow Al(OH)_3 \downarrow$ . The coagulate formed between  $Al(OH)_3$  and suspended particles either floats or precipitates depending on its specific gravity. By removing the floating film and the precipitate, pure water is obtained.

AUTHOR: I Lin [0001 2651]

ORG: None

TITLE: "Triumphant Return From Space -- Technology for Return of Man-Made Satellite"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] in Chinese No 3, Mar 78 pp 10-11

ABSTRACT: A man-made earth satellite was launched by China on 26 January 1978 and successfully brought back after accomplishing a scientific mission. This article discusses five important steps in bringing the satellite back to earth. (1) Deorbiting. (2) Re-entry into the atmosphere. (3) Opening of speed-reducing parachute. (4) Locating the satellite by ground communications center. (5) Splash-in. A structural diagram of the earth satellite is given.

AUTHOR: None

ORG: Shanghai Electrical Machinery Works and Shanghai Machine-Building College

TITLE: "Superconducting and Superconductor Generator"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] in Chinese No 3, Mar 78 pp 16-17

ABSTRACT: The superconducting characteristics of metals at low temperature is discussed. Diagrams of a direct current superconductor generator and an alternate current superconductor generator are shown. In both types of generators, the rotor windings made of superconductors are housed in a low-temperature chamber. Among the advantages of superconductor generators are (1) high unit capacity (max. 10-20 million kw), (2) light and small in size (a 1 million kv-amp 3,600 rpm synchronized superconductor generator weighs 90 tons including the weight of the cooling system), (3) high efficiency (loss of power at the rotor only a few hundred kw for a 660,000 kv-amp superconductor generator), (4) high stability when there is a fluctuation in the network, and (5) low cost for power transmission.

AUTHOR: None

ORG: None

TITLE: "Science and Technology Bulletin"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] in Chinese No 3, Mar 78 pp 26-27

ABSTRACT: (1) Hydrogen atomic clock. This time piece is used for satellite tracking, missile launching and nuclear submarine navigation. It utilizes the electromagnetic signal emitted from hydrogen atom to control the movement of the quartz oscillator. (2) Sound detector. This device is used to detect cracks or deformation in high-strength petrochemical equipment, forged rotors in steam turbine and aircraft parts, because cracks or deformation in material are often accompanied by sound. (3) Fluid pressure props. These are substitutes for wooden props used in coal mine shafts. (4) 100 horse power 4-wheel drive tractor. Manufactured in Shantung Province, this new tractor has a rated traction power of 2,800 kg and a rated speed of 2,000 rpm with a maximum speed of 30 km/hr. (5) Logic pulse detecting probe. Manufactured jointly by the Northwestern Telecommunications Engineering College and the Radio Instruments

[continuation of K'O-HSUEH HUA-PAO No 3, Mar 78 pp 26-27]

Works of Shanghai, this probe is used for diagnosing malfunction in electronic equipment made of two-pole integrated circuits. Its main function is to detect static voltage and to measure single or continuous pulses. (6) Tooth decay prevention preparation. Made basically of methacrylic diphenol glyceryl, it is smeared over the surface of the tooth or used as a filling material between teeth. It is solidified in 45 seconds under ultraviolet ray. (7) Hydrofoil. A 16.78 meter long hydrofoil has been built by the 708 Research Institute with the cooperation of the Hu-tung Shipyard of Shanghai.

AUTHOR: None

ORG: None

TITLE: "Science and Technology Bulletin"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] in  
Chinese No 3, Mar 78 pp 28-29

ABSTRACT: (1) 1,000 milliampere X-ray for diagnosis. This machine is built by the Shanghai Medical Equipment Works and used primarily for the diagnosis of heart and vascular diseases. (2) Graph-numeral conversion machine. Built by Chien-chung Machine Works, this machine is a key device for making large integrated printed circuits. (3) Magnetic sensitive brushless generator. This is a direct current generator using a magnetic sensitive diode to take the place of the brush. To overcome the effect caused by the drift in the temperature of the diode, a stabilizer and a temperature compensating circuit are built in. (4) "Water hammer" remover. "Water hammer" is described as the damaging high pressure in the water supply system when the system is shut off or turned on suddenly in an emergency. The device is a rubber air bag for lessening the high water pressure. (5) Supersonic cardiographic device.

[continuation of K'O-HSUEH HUA-PAO No 3, Mar 78 pp 28-29]

This device utilizes the rebound of supersonic pulse to measure the distance between the heart and the chest wall during the pulsation of the heart. The graph is displayed on a fluorescent screen. (6) Zinc dioxide static duplicating machine. This machine utilizes the optical effect of the image on the original document on the electrically charged zinc dioxide plate. The redistribution of negatively charged zinc dioxide particles forms an exact duplication of the original. Then the picture is transformed to a piece of paper through colored particles coated with resin. The paper is then heated. The colored particles adhere to the paper to form the image after the resin is melted.

AUTHOR: WANG Yung-kang [3769 3057 1660]

ORG: None

TITLE: "Pig-raising Factory"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] in  
Chinese No 3, Mar 78 pp 44-45

ABSTRACT: By "Pig-raising Factory," the author means mechanized pig farm. Such a farm which can produce 10,000 pigs a year, is scientifically managed, with different quarters for breeding, nursing, and feeding pork pigs. This article discusses schedules for mating, care of expectant mother pigs, and the nursing of piglets. Ventilation in pig pens, water supply, cleaning and feeding are also discussed. A highly efficient farm, the author says, can market as many as 300,000 pigs a year, and an attendant can manage 1,000-2,000 pigs.

AUTHOR: CHU Chi-mou [2612 4949 2021]

ORG: None

TITLE: "Under-water Laboratory"

SOURCE: Shanghai K'O-HSUEH HUA-PAO [SCIENCE PICTORIAL] in  
Chinese No 3, Mar 78 pp 46-47

ABSTRACT: Under-water laboratory is a cylindrical chamber with inside pressure equal to the water pressure outside. The laboratory sinks and surfaces by filling or pumping out water from two tanks attached to two sides of the chamber. Air, fresh water, electricity and food are supplied by a surface vessel. These laboratories are used for marine resources exploration, oil drilling and scientific observation. Since the 1960's, larger and better under-water laboratories have been built, capable of staying on the ocean bed for long durations. The author indicated that under-water laboratories capable of accommodating more than 100 people and staying under water for 7 months are being designed by "some" countries.

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CSO: 4009

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